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THE MANAGEMENT OF VARIOUS TYPES OF COLITIS*

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The term "colitis," strictly speaking, is the designation for inflammation of the colon. It means no more and no less. This emphatic statement is made because there seems to have been a growing tendency to use the term "colitis" interchangeably with "diarrhea" and "dysentery" and to apply it to all manner of vague abdominal disturbances. Abdominal discomfort associated with intestinal spasm has also been glibly called "colitis." This only makes for confusion in the profession and for false fear among laymen.

While, in general, "dysentery" is the name applied to a form of infectious enteritis, its differentiation from diarrhea is more apparent than real. "Dysentery" originates from two Greek words meaning "ill" and "intestine." "Diarrhea" refers to a persistent looseness of the stools. Dysenteric stools may alternate with diarrheal stools in a single case and both may be present without the presence of "colitis." The last-named term is not tenable unless inflammation of the colon is demonstrable. Furthermore, in the common forms of colitis of the North Temperate Zone, the various inflammatory lesions of the colon are usually readily distinguishable one from the other. To this end a well regulated set of objective investigations are indicated, including, in order, careful physical examination and rectal (digital) examination, study of the stools and rectal discharges, proctoscopic observation and roentgenologic studies.

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The Common Colitides

The common forms of colitis are: (1) amebic, (2) tuberculous, (3) thrombo-ulcerative (streptococcic), (4) ulcerative colitis of unknown etiology, and (5) so-called "mucous colitis." The last-named, of course, by the very nature of the definition, should find no place in this classification. Because of its common inclusion in discussions on colitis, however, it is mentioned here in order to clarify our viewpoint regarding its nature. The term "irritable colon" describes the condition commonly designated as "mucous colitis" much more adequately. It at once suggests that the cause of the difficulty should be searched for at points distant from the intestine. "Mucous colitis" is therefore part of a systemic disturbance of a functional nature.

"Mucous Colitis"

When it has been definitely established

that a diarrhea is the result of a disturbance of this type, treatment may often be very difficult. The most important factor in a well-regulated program of management in these cases has to do with convincing the patient that his diarrhea is of a functional nature. Since it may not be easy to convince him that his nervous irritability is causing the diarrhea, a carefully planned and well regulated set of objective tests become an important part of the treatment, and when the nature of the systemic disturbance has once been established, treatment of the diarrhea itself becomes a secondary problem. The patient may have to avoid those things which upset his nervous system. He may have to avoid certain foods which are fol'owed by intestinal disturbances. Of course, when the diarrhea is the result of such things as food poisoning or trichinosis, specific treatment is in order; and when it is caused by exophthalmic goiter, adequate treatment of the hyperthyroid state will result in control of the diarrhea. In my experience diarrhea occurs only in the late stages of uremia, when treatment of the uremic state may not be possible. In any event, however, treatment in such cases should be directed to the renal condition rather than to the intestine.

The same things may be said about the control of functional gastro-intestinal disturbances. So-called irritable or unstable colon is a condition in which the intestine plays only a small rôle in the production of the diarrhea, the colon being only one of the organs whose function is deranged. While relief of the diarrhea may be advisable, the major part of the treatment should consist in control of the general bodily disturbance. No fixed regimen is possible for all of these patients. The program must therefore be individual and it will entail patience on the part of the patient and physician alike.

Amebic Colitis (Amebiasis; Amebic Dysentery)

Chemotherapy plays a very important part in the treatment of this parasitic disease. The purpose of treatment in these cases is twofold: (1) to eradicate the parasite in the walls of the intestine and in other distant foci, and (2) to promote healing of the lesions they have produced. Emetine hydrochloride, administered hypodermically, and treparsol, given by mouth, have been found most useful in the treatment of amebiasis. It has been our custom at the clinic to inject 0.043 gm. (2/3 grain) of emetine hydrochloride about every twelve hours in the average case until 4 grains (0.24 gm.) are delivered. In some of the more severe cases 6 grains (0.4 gm.) have been given. After a rest of a week this same course is repeated, providing no untoward effects have occurred. Beginning on the day that the emetine hydrochloride is given, 0.25 gm. of treparsol is given by mouth three times a day. It is well to have the patient chew a tablet before each meal until twelve tablets are taken. This course is repeated in a week and with the same precautions.

One must never lose sight of the fact that these drugs are toxic and that the margin of safety between toxicity and therapeutic effect is not great. In some instances it is well to combine these drugs with vioform or some other of the complex iodine drugs. If this seems indicated, vioform may be given between the courses of treparsol and after the second one, again in tablet form three times a day. Sometimes, too, a third course of treparsol may be required. Following a so-called adequate course of treatment, stools should be examined on at least three consecutive days.

Drugs like bismuth are commonly used for symptomatic relief. In case this seems wise, large doses (3 or 4 drams) three or four times a day should be given. The diet should be generous but bland and it should be graded more or less bland according to the severity of the disease. Rest in bed is only occasionally necessary during this treatment.

Tuberculous Colitis

The common type of intestinal tuberculosis secondary to disease of the lungs resembles amebiasis in its involvement of the intestine. No specific treatment for it is as yet available; hence, the differential diagnosis of these two conditions is of utmost importance. Rest in bed and heliotherapy constitute the keynote of treatment. The object must be to take as much of the burden off the inflamed and handicapped bowel as is possible. The diet should be somewhat similar to that used in the treatment of thrombo-ulcerative colitis, which

will be discussed later. It should be smooth, relatively low in residue and high in calories. Attempts at specific treatment have included the injection of oxygen into the peritoneal cavity, roentgen therapy over the abdomen, and even opening and closing the abdomen surgically.

Among the drugs which have found favor in the treatment of tuberculous colitis are calcium, arsenic and mercury. Many other drugs have been employed, but the important thing to remember is that intestinal rest is of paramount importance. The prognosis in tuberculous enterocolitis is unfavorable and the condition is usually terminal. When the lesion is local and involves but a short segment of intestine, or in the case of the hyperplastic tuberculosis, surgical resection has yielded satisfactory results in many cases.

Thrombo-Ulcerative (Streptococcic) Colitis

This disease afflicts human beings in a remarkably dissimilar manner. It may begin insidiously and remain mild throughout its course; on the other hand it may begin insidiously, remain mild for a time, and then suddenly become very severe, or it may begin as a severe fulminating illness. Consequently, the treatment varies considerably for different groups of patients and many different therapeutic measures are brought into play.

Rest.—As with all serious and destructive diseases, rest of the body generally, and of the diseased part specifically, is invaluable. In this case it is not always rest in bed that is necessary, although this is of great importance in the severe and fulminating types of the disease, but restful recreation with a minimum of trauma to the diseased intestine, even in less actively infected bowels, that is of paramount importance. This at once implies that intestinal irrigation with medicated solutions is not a desired form of treatment. Rather, what is wanted is physical and mental rest.

Diet.—The diet should be generous but should aim to afford a minimum of intestinal irritation. In mild to moderately active cases the diet should be rich in calories—proteins, carbohydrates, vitamins, minerals—and yet relatively low in residue. Intestinal peristalsis is aggravated in all these cases. Protein foods leave relatively little residue and are digested high in the intestinal tract; hence the average individual should receive 100 gm. or more of protein daily. The other articles of diet should be graded up or down as the individual needs require. True enough, many cases are encountered in which parenteral fluids and feeding are required, it being of great importance to keep up the fluid balance of each individual. For this purpose glucose solution given intravenously and saline solution given subcutaneously have proved particularly valuable.

Serum.—The serum prepared by immunization of horses with the offending streptococcus has in most cases proved of great value. Such serum is usually best administered intramuscularly, although in severe and fulminating cases its intravenous administration has proved of inestimable worth.

Vaccine.—In the less severe, more chronic and subsiding cases the vaccine prepared from the streptococcus of colitis has been particularly helpful.

Blood Transfusion.—Most patients with thrombo-ulcerative colitis have some degree of anemia, and this may become profound. Varying degrees of sepsis and associated toxemia are encountered. Both of these conditions provide ample cause for blood transfusion. The manner of giving blood to these patients is important. Frequent small transfusions (from 100 to 250 c.c. at a time) given as frequently as every two to four days have been particularly efficacious.

Oxygen.—Oxygen depletion and oxygen want is apparent in cases of the more severely ill of these patients. Hence supplying oxygen to the body generally should be worth while—not instilling it into the rectum, as some have done, for I believe this causes too much colonic irritation, but administering it by inhalation. We at the clinic have been able to provide oxygen in a most satisfactory way by means of the mask recently devised by Boothby, Lovelace and Bulbulian.

Intestinal Antiseptics.—Medications too numerous to mention have been advocated for the treatment of this disease. Most of them are to be mentioned only because of their relative lack of merit. Particularly is this true of most of the so-called intestinal antiseptics; in my experience this in-

cludes not only the older mercurochrome, gentian violet, argyrol, acriflavine and many others, but the more recent ones such as azochloramide as well. Except in those cases in which there is much anal irritation and in which the disease is limited to the distal segments of the large intestine, I believe the instillation of medicated solutions into the rectum is not indicated. In some cases of involvement of the distal segments such mixtures as aluminum hydroxide and kaolin may have some value. Powders given by mouth in large amounts, such as bismuth subnitrate, tribasic calcium phosphate and collosol kaolin, by their absorption of water and consequent reduction of the number of bowel motions, seem to have definite value.

Opium or Codein.—Any substance tending temporarily to splint the bowel serves a purpose, and to this end minimal amounts of opium or codein are desirable. They should be used, however, only for short periods of time.

Iodine.—Just what the rôle of iodine is in the control of a diarrhea remains an unsolved problem, but that it has a favorable effect in some of these cases cannot be denied. Tincture of iodine, administered in water in doses of 10 to 15 drops three times a day, seems to help a number of the patients. I once estimated that about 15 per cent of our patients were thus benefited.

Calcium and Parathyroid Extract.—Some patients with the milder forms of thrombo-ulcerative colitis seem to have obtained benefit from the use of calcium and parathyroid extract, the number of such patients, however, being very small. I have never been quite sure that the few who were benefited were not aided by the psychic effect of administration of the drugs plus rest and the other elements of the program provided.

Histidine Hydrochloride.—An occasional patient with thrombo-ulcerative colitis has been benefited by the administration of 5 c.c. of a 4 per cent solution of histidine hydrochloride. Again, patients so benefited had the milder types of the disease. This drug has been given daily for several weeks.

Iron.—Iron is another valuable medication in this condition, but the preparation chosen is of greatest importance as so many iron products will increase diarrhea.

Pectin.—Pectin and apple powder seem to have helped in a few cases, but in my experience only very temporarily.

Arsenic.—Arsenic, in the form of carbarsone or some similar preparation, should be used only for its tonic effect and then only when the active stage of the disease, with marked bleeding, has subsided. In the main, arsenic may be considered as an unsafe drug in the treatment of this disease.

Neoprontosil.—The sulfanilamide group of drugs has recently come into prominence in the treatment of many streptococcal infections. Theoretically, therefore, these drugs might have value in the treatment of thrombo-ulcerative colitis. Preliminary trials of such drugs have been encouraging. Sulfanilamide, however, has been found to be too toxic for it to find favor in the treatment of those types of the disease in which help is really needed. Several other forms of sulfanilamide have been tried without much more success, but the recent, less toxic neoprontosil has produced striking results in a small series of mild to moderately severe cases. This drug has been administered in doses as high as 75 grains (5 gm.) a day (divided into 5 doses) over a period of weeks with complete abatement of symptoms and striking improvement in the appearance of the lining of the bowel as viewed through the proctoscope.

Many of the measures suggested here for thrombo-ulcerative colitis are applicable also to cases of ulcerative colitis of unknown etiology.

Ulcerative Colitis of Unknown Etiology

One cannot stress too greatly the importance of intensive further study in cases of intestinal ulcerative disease in which the etiology is not clear. Until adequate cause is found, the symptomatic program outlined will have to serve. Modifications will have to be made to suit the individual case. There is probably no other disease-provoking condition in which it is so important to treat the individual and not the disease. True enough, certain well regulated principles have been established in

the management of most cases of ulcerative colitis. Too frequently, however, such measures will fall far short if special emphasis is not paid to the symptoms in each individual case. Failures of treatment may be frequent, but they will be less and less frequent by strict adherence to a well ordered regimen.

It has been well said that disease above the diaphragm makes for optimism and below the diaphragm for pessimism. There is no group of diseases where this is better expressed than in the ulcerative types of colitis.

It is hardly possible to discuss the various types of colitis without mentioning the conditions associated with a deficiency of one food element or another. Sprue and pellagra are probably the commonest of these. It is important to determine, if possible, just what is lacking in any given case of deficiency and then treat the patient by supplying the food, mineral, or other substance which is causing the deficiency. In the case of active pellagra, a diet high in calories and vitamins is probably the most important single measure in the treatment; supplying all the necessary food elements, and at times supplying more than adequate quantities, may be enough to control the condition. At the onset, an excess of vitamin B should be given, using it in concentrated form. Nicotinic acid has recently been found to be particularly valuable. In the case of sprue, the factor of anemia is frequently one which must be dealt with very drastically; hence the administration of some of the drugs used in the treatment of anemia may be indicated. Liver extract, preferably given hypodermically and in large doses, is of value. Dilute hydrochloric acid administered by mouth may be advisable as a substitute for the acid which may not be present. A diet rich in carbohydrates, high in proteins and relatively low in fats has proved most efficacious. Frequently even carbohydrates are poorly tolerated at the onset and must be added slowly. Deficiencies may be secondary to any other bodily state that may be associated with diarrhea. Such conditions are usually best managed by control of the basic pathologic changes.

One must also keep in mind the great importance of regional colitis in which short segments of the intestine are involved by an inflammatory disease much in the nature of so-called regional ileitis. The best method of diagnosing this condition is by careful roentgenologic examination. At present, the accepted and most successful form of treatment seems to be surgical resection. Diarrhea may also occur with various local granulomatous processes such as infectious granuloma; again, surgical resection seems to be the treatment of choice.

It is likewise difficult at times to differentiate the various forms of colitis from the infectious dysenteries. Typhoid fever or bacillary dysentery can be differentiated by adequate blood cultures and serologic agglutination tests. If these conditions are suspected, precautions should be taken to isolate such patients.

In summary, one might say that the various forms of colitis and conditions associated with dysentery present some of the most serious problems which face the physician. One must ever be on the alert for them and the importance of differentiating between them so that adequate treatment may be established cannot be emphasized too greatly.

CORRELATION OF CLINICAL AND LABORATORY DATA IN DISEASES OF LYMPH NODES*

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Theoretically, a biopsy study of a lymph node affords the most certain method of diagnosing the type of lymph gland disease. Clinically, this method of study is not always feasible or desirable. At times it is necessary to know something of the nature of the disease before a biopsy report could be obtained. There are some features of the clinical examination which correspond to, and suggest, certain histological changes in the lymph nodes.

The most common types of lymphadenopathy are those found in (a) local or (b) general pyogenic infection, (c) tuberculosis, (d) infectious mononucleosis, (e) Hodgkin's disease, (f) sarcomatous Hodgkin's, (g) lymphosarcoma, (h) metastatic neoplasm (carcinoma), (i) syphilis, and (j) leukemia. Other and less common types may be noted.

For the present purpose, the lymph nodes may be considered as being composed, primarily, of growing lymphocytes (large and small: young and old) in a capsule of connective tissue. In addition to this there are various types of connective tissue and stroma cells, plasma cells, eosinophiles, nerve cells and fibers, blood vessels and circulating blood cells of the usual types.

An individual lymphocyte is very soft. A red blood cell will indent its edge. When the gland is filled with lymphocytes, the gland is soft. This is the condition in lymphatic leukemia. Connective and fibrous tissues are comparatively hard. When these elements are increased in amount in Hodgkin's disease, the node is hard, or when a gland recovers from a chronic infection the fibrosis is reflected in the increased firmness. When the center of the node becomes semifluid, as when pus accumulates, the sensation of fluctuation can be obtained. When cells, having but little cytoplasm, increase in number, the glands become very firm, as in lymphosarcoma, and when carcinoma cells invade the tissue, a stony hardness is noted.

When a gland enlarges slowly, it is not tender or painful. A rapidly enlarging gland stretches the capsule, and this affects the nerve endings. The most common type of rapid enlargement with tenderness is found in acute infections, such as regional lymph nodes in furunculosis, or the nodes early in infectious mononucleosis.

As long as the capsule and surrounding tissue are not involved in the disease process, the gland is freely movable. In lymphosarcoma the neoplastic cells invade the capsule and enter the surrounding tissues. This makes the gland adhere to the surrounding structures. In infections there is a periglandular reaction which has the same effect. In pyogenic infections, the overlying skin may be reddened. In tuberculosis, the gland may become adherent to the skin and a sinus may follow rupture. A pus-filled gland may become attached to the surface and rupture, forming a draining sinus. The other types of lymphadenopathy do not show this characteristic, although it may appear if a secondary process develops, as necrosis of an adherent carcinomatous node. When the capsule is involved, the glands may become adherent to each other, forming matted masses. In Hodgkin's disease the glands remain discrete until close packing of the hypertrophied nodes causes them to adhere to one another. In syphilis and lymphatic leukemia, the nodes remain discrete. In the sarcomatous form of Hodgkin's disease, cells penetrating the capsule invade the surrounding tissues and simulate the condition in lymphosarcoma.

The location of the enlarged nodes may be of diagnostic significance. Usually, only the neoplastic forms (lymphosarcoma, sarcomatous Hodgkin's, leukemia) give lymphoid nodules in places where normal nodes are not common, as scattered over the skin of the trunk or extremities. Enlargement of the tonsils, in generalized lymphadenopathy, most frequently suggests lymphosar-

*From the Thomas Henry Simpson Memorial Institute for Medical Research, University of Michigan, Ann Arbor. Delivered before the American College of Physicians, New York City, April 7, 1938.

coma, less frequently syphilis or carcinoma. Inflammatory involvement of the tonsils, with exudate, may characterize acute leukemia or infectious mononucleosis. In carcinoma and tuberculosis, the lesion is more likely to be local than generalized. The spleen may escape gross enlargement, at least until the last stages, in lymphosarcoma, whereas it is commonly involved in leukemia, Hodgkin's disease, syphilis, and infectious mononucleosis. It may, however, be involved in any of the other conditions if the process is generalized.

Gross anemia, as evidenced clinically by pallor of the mucous membranes, is most common in advanced Hodgkin's disease and leukemia. It may be present in bleeding carcinomas, or at the terminal stages of lymphosarcoma.

Fever may be present in the infections, in infectious mononucleosis, at times in Hodgkin's disease, tuberculosis and leukemia; seldom, unless there are complications, in carcinoma, lymphosarcoma, or syphilis.

Purpura or bleeding areas around the gums or elsewhere, is most likely to be present in leukemia. Maculo-papular and erythematous skin eruptions may be present in German measles and in infectious mononucleosis. Nodular eruptions, with induration of the skin, macular infiltration and cutaneous hemorrhages may be present in leukemia or lymphosarcoma. Pigmentation and exfoliative erythroderma may be present in Hodgkin's disease. Herpes is present occasionally in leukemia.

Stomatitis may be present in acute leukemia, in chronic monocytic leukemia, infectious mononucleosis, and syphilis.

Before one takes up the microscope, several additional possibilities may develop from a study of the history. The suddenly enlarging tender node with overlying reddened skin following localized trauma and infection is to be distinguished from the slowly growing non-tender unilateral enlargement which later becomes bilateral, as in Hodgkin's disease, or may remain asymmetrical, as a carcinoma. The family history of tuberculosis may give one a clue. In Hodgkin's disease, sarcomatous Hodgkin's and lymphosarcoma males are more frequently affected than females. Infectious mononucleosis is more likely to occur in children and young adults than in the middle ages; tuberculous lymph nodes in the young; Hodgkin's disease most commonly between the ages of twenty and thirty.

These points suggest a few of the data which may be obtained from the study of the patient when laboratory aids are not at hand. The blood, of course, would be very helpful in leukemia (immature cells), in infection (basophilia of the granules of the neutrophiles), in lymphosarcoma (characteristic cells), infectious mononucleosis (characteristic cells, sheep red blood cells agglutination), and in syphilis (serologic tests). In any disease of lymph nodes, plasma cells may appear in the peripheral circulation.

The biopsy examination usually gives a definite answer in Hodgkin's disease, tuberculosis, syphilis, carcinoma and lymphosarcoma. Removal of individual lymph nodes is not entirely devoid of danger. In lymphosarcoma recurrence of the lesion in the biopsy wound is common. Secondary infection is not uncommon, as cases who have come to us with infected biopsy wounds amply demonstrate. Removal of single nodes appears, in some cases, to activate Hodgkin's growths. Sinus formation has followed removal of individual tuberculous glands. Finally, a normal, not yet affected node is sometimes removed, when others in the body show the disease lesion. These are chance incidents, however, and do not invalidate the diagnostic importance of biopsy examination.

Conclusions.—On examination of the patient, it is possible to note many physical features which are secondary to, or associated with, histological changes in the lmyph nodes, at times sufficient to make a definite diagnosis before the aid of the laboratory is available.

LYMPH GLAND REMOVAL IN CANCER OF THE CERVIX

Technique and Results.

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For the past fifty years the efforts to effect a cure in cancer of the cervix, limited as they are to surgery and radiation therapy, have been directed along two lines: (1) to remove or eradicate the cancer that may have extended to the connective tissue or organs around the cervix; (2) to remove or eradicate the cancer that may have metastasized to the tributary pelvic lymph glands.

During the first half of this period, up to 1913 let us say, treatment consisted almost entirely of surgical excision. Toward the end of the nineteenth century two Viennese gynecologists, Schauta and Wertheim, devised operations for the radical removal of the entire uterus and appendages, upper vagina and surrounding pelvic connective tissue. Schauta, working from the vaginal route, could not remove any lymph glands, whereas Wertheim, through an abdominal incision, could take out some of the glands, but by doing so added to the trauma and length of the operation and thus had a higher operative mortality. In the very early cases such a combined hysterectomy and gland removal was reasonably safe but in slightly more advanced cases with partial parametrial involvement it was impossible to include the gland removal without increasing the operative mortality to 15 or 20 per cent. It was this high primary death-rate that induced many gynecologists to abandon surgery except for the early cases, especially as it became more and more evident that radiation treatment in cervix cancer was very effective in eradicating the disease and was attended by about one-tenth the mortality.

This swing away from surgery to irradiation in the treatment of cervix cancers from 1915 to 1930 became so widespread that only here and there a few gynecologists could be found to continue with the difficulties of the radical operation. In England, Berkeley and Bonney, and in this country, Graves, Lynch, Gellhorn and myself, have adhered to surgery in suitable cases. In Group I cases (League of Nations classification) the operative mortality, especially if the cancer was cleaned up by preliminary radiation, did not rise much over 6 to 8 per cent. When, however, cases with palpable parametral thickening (Group II cases) were subjected to such a pan-hysterectomy the mortality, as shown in Bonney's series, jumped to 12 or 15 per cent.

The average distribution of the four groups, when the League of Nations is strictly adhered to, is as follows: Group I, 15 per cent; Group II, 28 per cent; Group III, 34 per cent; Group IV, 23 per cent. It will be seen from this that there are almost twice as many Group II cases that come to us for treatment as Group I cases. In these relatively less advanced cases irradiation with x-ray and radium produced very satisfactory regression in almost all cases and cures for five years or more in about one-fourth of them. Where recurrences took place, as Regaud and others have pointed out, the site was apt to be in the pelvic lymph glands, tributary to the cervix.

In 1930, Dr. Gellhorn and I were trying out a method of intra-abdominal radon seed implantation for Group II and Group III cancers and in the course of such an operation in October of that year I found a markedly enlarged hypogastric gland which could easily be removed and proved to be carcinomatous. The gland on the other side was not malignant. This patient, by the way, is still free of recurrence almost eight years later. In the course of the succeeding months I gradually developed the operation of iliac lymphadenectomy and carried it out in an increasing number of cases. The idea back of this procedure was to treat the disease in the cervix, upper vagina and parametrium by irradiation and to re-

move surgically the tributary lmyph glands in the pelvis as far as this was technically practical. I also tried out the operation in a few Group III advanced cases, but found that my operative mortality in this group was prohibitively high (three out of eight). Since 1933 I have restricted the operation to the Group II patients.

It has been universal experience that radiation therapy is very unsatisfactory in eradicating cancer metastases in lymph glands. In cancer of the oral cavity, the breast, the vulva and penis even though the tributary lymph glands are relatively superficial, radiation has been very disappointing, especially when compared to surgical excision. Hence, the accepted treatment in these forms of cancer has long been the radical removal of the lymph gland chains. It seemed logical, therefore, to try out a similar procedure in cervix cancer. The crux of the problem was how radical this lymph gland removal could be made without increasing the primary mortality. I had the conviction that if we could keep this operative mortality below five per cent, the procedure should give long-time results that would justify its performance. For this reason I have never attempted the removal of the inaccessible sacral glands, which according to careful autopsy studies are not involved in more than three per cent of cases. It was also felt inadvisable to include glands near the aortic bifurcation since an extension to this point indicated widespread metastasis. The glands removed, therefore, were primarily the so-called first-stage glands, the hypogastric and obturator group, also those along the external iliac vessels, including in recent years the ones near the inguinal ring, and finally, whenever palpable, the ureteral gland (Championnier).

The foundation for our knowledge of lymph-gland metastasis in cervix cancer dates back to the intensive studies made in Germany between 1900 and 1910 largely as a result of the rivalry between the followers of Wertheim and Schauta. Roughly summarizing the experience of a variety of gynecologists we see that in Group I cancers the glands showed metastases in 25 per cent; in Group II cancers, the involvement was about 40 per cent; Group III, 55 per cent; and in Group IV (that is to say, those who died of cancer and came to autopsy) the involvement according to Schauta's 50 cases was 64 per cent.

As to the location of these metastases it was observed that about two-thirds of them

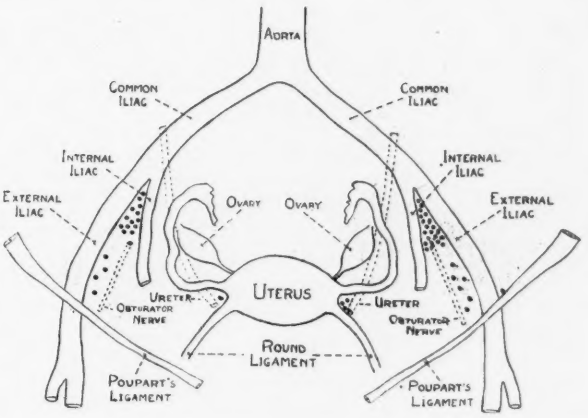

Fig. 1. Distribution of lymph-gland metastases in cancer of the cervix.

were in the hypogastric and obturator glands. The sacral glands were involved in about five per cent of the metastatic glands. The ureteral gland or gland of Championnier in about 8 to 12 per cent and the glands along the outer border of the external iliac vessels and higher up in the abdomen in the remaining 18 per cent. These figures may need slight revision in further studies but are approximately correct.

My own figures in eighty-three Group II lymphadenectomies showed metastases in twenty-nine cases (35 per cent). In seven of these cases cancerous lymph glands were found on both sides. The distribution between the two sides showed an unexplainable difference, thirty on the left side compared to eighteen on the right. The hypogastric glands were involved in 68 per cent of the cases. Details of the distribution of cancer metastases are found in Figure 1.

Coming now to a discussion of operative technic, it was inevitable that with increased experience in a new procedure of this kind there was some modification and improvement. The most important change made in the last four years was the complete separation of the radiation treatment from the operation itself. Originally the radium or radon seeds were applied to the cervix at the time of the operative removal of the lymph glands. When this was done, the postoperative course was stormy and the only two fatalities occurred during this period and with reasonable likelihood were due to

the associated radiation. In one of the 1931 series in which radon seeds were implanted close to the uterine veins, the patient died suddenly on the ninth day of an embolus.

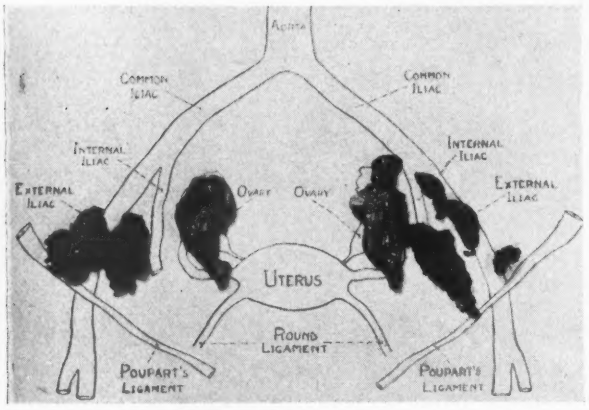

Fig. 2. Lymph glands, together with adnexa, removed by iliac lymphadenectomy for cervix cancer, photographed according to location.

In another case, the thirty-fourth in my series, radium applied to a uterus whose walls were weakened by the removal of a rudimentary horn caused an infection of the parametria and led to a fatal peritonitis. For the last sixty lymphadenectomies no such combination with radiation has occurred and by a lucky chance not one postoperative death has occurred. Accordingly my operative mortality in the entire series of ninety-five Group II lymphadenectomies has been only 2.1 per cent. I must confess, however, that four of these patients had severe operative hemorrhages and were in serious condition. A longer series of operations may slightly increase my mortality. My experience, however, is definite proof, I believe, that no one can maintain that this operation is not justified because of its operative risk.

At present my technic consists of a course of deep x-ray treatments, totally about 6,000 r units, to the skin over four portals over a period of about two weeks, followed two weeks later by the lymphadenectomy. Two or three weeks after operation radium is applied to the cervix. In some instances the radium treatment to the cervix has preceded the lymph-gland operation. The dosage with radium has averaged 4,500 mg. hrs.

The operation begins with the removal of the tube and ovary to gain better access to the lymph-gland-bearing area. It is interesting in this connection to note that two French surgeons. Leveuf and Godard, have also advised a lymph-gland removal for cervix cancer. They start with a section of the round ligament to give access to the deeper tissues. In 1933 they reported that in two cases they did such a gland removal following one month after radium treatment to the cervix. They state that their first case was done in July, 1930, so that apparently they can justly claim priority by a few months over my operation, even though their two cases prove nothing as to the value of this procedure.

With the adnexa out of the way, the leaves of the broad ligament are widely opened by the fingers, exposing the ureter clinging to the posterior sheath and the large iliac vessels on the side of the pelvis. Cleaning off the loose fat, the angle between the external and internal iliac vessels is palpated and the gland at this point gently loosened from its attachment by digital pressure. When it can be clearly seen, tributary veins are clamped and cut and the gland removed. By this time the obliterated hypogastric artery is seen running toward the bladder and as the finger passes beneath the external iliac vein the obturator gland and its surrounding fat can be felt and lifted clear of the obturator nerve which often runs through the center of this mass. Again under the guidance of the eye, tributary veins are clamped and cut and the long obturator gland followed almost to the femoral ring before its end is released and nutrient vessels caught. Palpation at the point of crossing of ureter and uterine vessels will reveal a gland if it is enlarged. Its removal is not so simple, as venous bleeding and possible injury to the ureter must be guarded against. Duncan has suggested routine ligation and cutting of the uterine vessels. I have not done this routinely as in difficult cases it may stir up deep venous hemorrhage. In the last three years I have regularly exposed the external iliac vessels along the pelvic brim and removed the gland just beneath the inguinal canal which can readily be exposed and easily removed. Occasionally a gland will also be found over the bifurcation of the common iliac vessels or between the external iliac vessels and the psoas muscle. One must expect certain abnormalities of lymph-gland distribution, but with increased experience more and more lymph glands will be found. The finger

TABLE I.

Survival years	Voltz Radiation alone 310 cases Percentage survival	Gellhorn and Taussig Radiation alone 76 cases Percentage survival	Taussig Radiation and lymphadenectomy 30 cases Percentage survival
1	65.5	52	66
2	36.4	41	56.6
3	27.7	31	
4	22.9	25.5	
5	22.3	20	50 (10 cases)

must be trained to coöperate with the eye in this search (Fig. 2).

After removal of the lymph gland has been accomplished on both sides, the wound is closed with a minimum of dead space by suturing the round ligament to the sacro-uterine, catching both at a point about one to two inches from the side of the uterus. The peritoneum is then closed by a running stitch. The whole operation should not take over an hour exclusive of the incision. Spinal anesthesia has been usually employed on account of the complete relaxation of intestines and hence better exposure of the pelvic region.

Complications consists primarily of injury to the ureter, which has occurred twice, and hemorrhage of the deep pelvic veins, which in three instances became so uncontrollable that clamps were left upon the larger vessels and the tissues packed with gauze. Removal two to three days later was uncomplicated by bleeding or infection. Three times the external iliac vein and once the external iliac artery had to be ligated to permit the removal of large adherent glands. No post-operative edema or difficulty was experienced in these four cases.

The final answer to the value of iliac lymphadenectomy in Group II or borderline cancer of the cervix cannot yet be given but with each year of experience we are becoming more encouraged, not merely as to the immediate low operative mortality but with each year of experience we are ber of operations done has considerably increased in recent years owing to the enlargement of my service at the Barnard Free Skin and Cancer Hospital where almost all of these cases were operated on. By years they were:

1930	2 cases
1931	6 cases
1932	6 cases
1933	4 cases
1934	10 cases
1935	8 cases
1936	22 cases
1937	13 cases
1938	24 cases

One of these operations was done at the University of California Hospital through the courtesy of Dr. Frank Lynch. It should be stated that Dr. Lynch in San Francisco, Dr. Victor Bonney in London and Dr. Duncan in Brooklyn have done a series of iliac lymphadenectomies.

The survival rate of these cases will alone give us a fair impression of the value of this operation. Comparison must be made with a series of Group II cervix cancers treated by radiation only. This was made possible at the Barnard Hospital by the fact that Dr. Gellhorn, who shared the service with me from 1930 until his death early in 1935, treated this group of cases by radiation alone. We also have available figures of survival rates in a large series of Group II cancers treated only with radiation by Voltz in Germany. In addition to Dr. Gellhorn's cases I also had a small number of Group II cases which because of obesity, old age, or other operative contra-indications were treated by radiation alone. Table I shows the percentage of survivals over a period of one to five years and I think demonstrates the value of this operation.

In the course of the next two years when we have a greater number of cases that have passed the five year period, we shall be able to speak with more authority on our

results. For the present we can only say they are promising. An increase of 15 per cent in the group of two-year survivals and an increase of 30 per cent in the five-year survivals certainly justifies whatever cost and discomfort the additional operative procedure may have entailed. The real value of the lymph gland removal can better be visualized in the five-year survival rate than in the two-year period. Local recurrences due to failure of regression in the cervix would be apt to show themselves in this period and would apply to either group, whereas the gland metastases would usually show up somewhat later, so that the difference in the survival curve should be expected to be greater between the two- and five-year period.

With the low operative mortality of two in 95 cases (2.1 per cent) the safety of the operation has been proven. It remains now only to show on a larger scale that we can, as seems probable at the present time, save twice as many Group II cancers by this procedure, to justify completely its performance routinely in all clinics.

HEARING AND DEAFNESS*

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Hearing may be defined as the ability to comprehend speech, deafness as an interference with this comprehension. These definitions are neither technical nor complete. They, however, serve to emphasize aspects of the hearing problem that physicians frequently overlook. Patients never complain that they can no longer hear the overtones of the flute or of the piccolo. It is the inability to hear social or business conversation that causes them to seek advice. The loss of hearing for high notes may be mentioned but this is not a major complaint, even among those interested in music. Comprehension of speech involves not only an adequate hearing organ in the temporal bone but also an intact and agile central nerve mechanism. Everyone recognizes that it may be necessary to repeat a statement to an old person several times before it is understood. Raising the voice may focus the wandering attention of the aged, but the hearing acuity may not require this increased volume.

The range of sounds heard is conveniently tested by using pure tones generated by an audiometer. When tested in this manner a patient may have a normal curve of hearing acuity. The patient in this test is required merely to say that he hears or does not hear the sound. Extensive comprehension is not required. By testing the acuity for connected speech with the aid of a phonograph and a calibrated volume control some patients may show a slight hearing loss. Substituting isolated numbers for connected speech with such patients the loss may be much greater. These individuals have a good end organ of hearing but are lacking in their attentive faculty. For practical purposes they are partially deafened and they may complain of deafness. This phenomenon, and not the loss of hearing for high tones, accounts for many of the complaints of deafness of old persons. The physician must realize that the approach of these cases is not a strictly otologic one. A hearing aid for older persons sometimes defeats its purpose by increasing the fatigue of the attention.

While the ear with acute hearing can appreciate nine or ten octaves, the hearing necessary for speech requires but about three octaves. The best speech perception requires a greater range but these few octaves serve rather well. The clarity of speech reproduced by the small radio and the commercial telephone testifies to the adequacy of a small range. In the light of the foregoing comment I trust that my unorthodox defini-

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tions will be accepted for their practical worth.

With increasing years our ability to hear high notes decreases. However, this deafness for high tones may be found at any age. Unfortunately this is many times accompanied by a tinnitus in the range of the missing frequencies. In almost every group of medical students there is at least one person who does not have a sense of hearing for high notes. A typical example is the student who does not hear the three highest notes on the piano. This may seem a handicap until we reflect that to most people the upper piano octave has little musical quality.

Everyone will recall Galton's interesting experiments with a whistle concealed in his walking stick. When he set the whistle for its highest tones he attracted the attention of young humans and young animals. Older beings, not hearing the sound, were not disturbed. The so-called silent dog whistle is an adaptation of the Galton whistle. It takes advantage of the better appreciation of high notes by the dog than by the human. This almost physiological upper tone loss with age does not affect the comprehension of speech until the loss encroaches upon the lower frequencies. This is a typical perceptive hearing loss. The mechanism of the middle ear (drum membrane and the ossicles) may be intact. The tests for low tones may be normal.

When a perceptive deafness is found in children it frequently has a very irregular character. There may be only an island or two of hearing. This deafness may date from birth or it may have developed without any objective signs of disease. Other children have definite histories of such conditions as meningitis. With an extreme hearing loss these children require special training to learn to speak, to preserve their speech, and to acquire auxilliary faculties to compensate for their hearing loss. In the care of all of these cases of perceptive deafness a peculiarity for this type must be remembered. When heard at all loud sounds are just as unpleasant as they are to the normal hearing individual. Due to the studies of Pohlman and Krantz, Rieger, and Fowler, we have a partial understanding of this phenomenon. It may be better understood by referring to the chart on which the audiogram is recorded. The upper heavy line indicates the threshold of hearing. The lower dotted line indicates the intensity at which the loudness becomes painful and hence useless for hearing. In testing, tones are increased in volume until heard. Once the tone is loud enough to be heard, the sensation of loudness is almost the same as for the normal ear. It is as if the ability to hear weak sounds had been wiped out with but little change in the hearing of loud sounds. This has an important bearing upon the use of electrical hearing aids for it limits the amount of amplification useful to the patient.

Contrasted with these patients are those whose end organ of hearing and whose central connections appear to be normal. Deafness is due to some hindrance to sound reaching the end organ in the cochlea. This group includes those suffering from active middle ear disease, those with scarring in the middle ear, and those with otosclerosis. There is good reason to believe that once sounds reach the cochlea in these cases the hearing is essentially no different from that of a normal individual. We noted that those with a perceptive deafness had lost a certain portion of the spectrum of hearing. We also noted that within their hearing range they behaved much like the normal individual. With these conductive deafened cases it is as if the hearing spectrum had been depressed on the chart by an amount equal to the impedance factor of the obstruction. In an active infection this means that sound travels with diffculty through the collected secretions. In otosclerosis this means that the transmitter, the drum membrane and the ossicles, which converts sound waves in air to sound waves in fluid no longer functions. Apparently the shades of pitch and volume are the same as if a normal individual heard them from a great distance. Sounds when amplified seem normal to these patients. The individual with this type of deafness receives great benefit from the electrical hearing aid and also enjoys listening to radio programs if the volume of the receiver is increased enough to overcome the obstruction in his middle ear. The perceptive deafened individual, previously discussed, gets little enjoyment from increasing the volume for to him the loud sounds are painful.

In the foregoing the problem of deafness has been made too simple. Many observed

clinical phenomena do not fit well into such a simple exposition. Moreover, many patients show evidence of both a conductive and a perceptive deafness. For example, in middle ear infections part of the deafness may be due to a toxic depression of the hearing end-organ. No doubt the diagnosis of mixed deafness is justifiable in order to clearly state such finndigs. Such a diagnosis should not be used to cover an inadequate examination.

As far as the diagnosis of mixed deafness is concerned, a decision should be made as to the major disabling lesion. This leads to clarity of clinical thought. This does not mean that, in a true case of mixed deafness, the major disability of which is due to a perceptive lesion, the conductive lesion should not be treated. A small increase in hearing acuity may be of inestimable value to the patient. At the present time less hope can be offered to those suffering from a perceptive lesion. In perceptive deafness there may be an apparent improvement under drug and diet therapy and even a justification for considering that a focal infection may cause part of the trouble. Any remedial régime must be carefully considered. The indiscriminate recommendation of nasal operations and tonsilectomies as possible remedies for deafness has brought little credit to the medical profession. Patients with a congenital perceptive deafness frequently state that their tonsils were removed to improve their hearing but that no improvement resulted. Deafness should not be an indication for tonsilectomy. The decision for surgery or medical treatment of the rhinopharynx must rest on the conditions observed in the rhinopharynx.

A conductive deafness due to an infection may improve with treatment which promotes a recession of the infection. Even conductive deafness due to otosclerosis may be amenable to treatment in the near future.

As suggested at the beginning deafness for practical purposes includes those cases that fail to comprehend speech because of some difficulty in the central mechanism. The diagnosis of mixed deafness when loosely made includes many of these cases. The treatment of these cases is not a truly otologic problem.

The accurate diagnosis of the hearing lesion is a time-consuming and technical procedure. This should not deter the general practitioner from making a brief survey of the hearing and it should be no excuse for the use of careless methods in this brief survey. The voice of the patient gives some indication of the type of deafness. The harsh, loud, unmusical voice probably belongs to the patient suffering from a perceptive lesion. The patient is unaware of his vocal shortcomings because he is deaf for those frequencies in which they occur. His own ears cannot correct the defects. The deaf patient with a low, well modulated voice is typically one suffering from a conductive lesion. The lesion has produced an effect similar to the occluding of both ear canals with fingers in a normal person. The normal voice under these conditions is inordinately loud and the patient adjusts the volume of his own voice to the comfort of his own ears.

The examination with tuning forks is both well known and well described. The general practitioner may be justified in certain simplifications of some of these tests. It is obvious that the various tests comparing air conduction with bone conduction are merely modifications of the Rinné test. In brief examination it is not necessary to investigate hearing at all frequencies. If the physician has a tuning fork of a high pitch such as 4096 and if he knows his own hearing time to be normal for this frequency, he can readily determine the recession of the hearing for high notes by determining the length of time which this fork is heard under a fairly well standardized exciting blow. A single other fork of 256 or 512 double vibrations should suffice for the Weber and Rinné tests. Here the patient must distinguish, especially with the 256 fork, between vibration sense and hearing. The tuning fork must be carefully selected. In one clinic in which I work there is a tuning fork that gives bone conduction greater than or equal to the air conduction in the normal patient. The hearing time for bone conduction and for air conduction is dependent upon peculiarities of the individual tuning fork. With any tuning fork its characteristics should be known. The carrying out of the fork tests and of the electrical audiometeric tests is a medical problem. It should be remembered that if a commercial firm offers to test the hearing of a patient the test is being conducted by nonmedical persons. Although some of

these tests may be excellent and the results useful, such a situation is bad in principle. There are several pitfalls to be guarded against in a brief examination of hearing. A clever, self-taught lip-reader visited a clinic for nasal treatment and was seen by several physicians before it was discovered that she had no hearing for conversation at ordinary volume. In examining a patient complaining of deafness one should eliminate the lip reading factor by holding a card or fan before the examiner. A noisy examining room is a distinct handicap. The examiner being conscious of the noise raises the level of his own voice so that he may hear himself speak. The deafened patient, especially if of the conductive type, will not be influenced by the masking effect of the high noise level and will hear the loud voiced examiner with ease. Another pitfall is met in those cases that date their deafness to an accident or to a severe illness. This is even credited occasionally in medical literature. The hearing loss may be of such a character that there can be no relationship between the trauma and the deafness. Up to the illness or injury the patient had been able to compensate in part for the hearing loss. With the compensatory mechanism reduced by malaise the hearing loss became quite obvious. Other patients report that every time they have a cold their hearing decreases. This is due to an actual lesion of the middle ear and eustachian tube or due to the malaise cited above. In the same category is the complaint of the secretary who has difficulty with dictation during the menstrual period. The hearing difficulty is constant. The period of cyclic depression reduces the ability to compensate for the hearing loss.

To stir up wide interest in the problems of the deafened the slogan "deafness can be prevented" has been broadcast. This is unfortunate for many times it is not true in any practical sense and the self-accusing parents should be reassured.

The handling of a hearing case can be considered under the following heads: diagnosis, treatment if indicated, provision of a hearing aid, if useful, and adjustment of life to the deafened state. The physician must participate in all these. The otologist is refining the matter of diagnosis. Careful evaluation of treatment indicates the present still unsatisfactory state. The technical developments in hearing aids can not be used to their fullest extent because of the prejudice of patients.

The hearing aid properly selected may be of invaluable assistance to the adult in carrying on in the field in which he is already trained. The hearing aid occupies a still more important position in the training of the deafened child. Much effort and money is expended upon the education of the totally deafened. There are a large number of children in our public schools, however, whose hearing is depressed to such a point that they have difficulty in keeping up with routine class work in competition with normal-hearing children. For these children some of the more newly developed hearing aids which are actually small amplifying systems are of great value. These are capable of picking up speech from distances of 20 to 40 feet. Certain children, as do adults, object to the use of an obvious hearing aid. The very use of hearing aids in the schoolroom will help break down the prejudice by educating the public in their use.

Deafened children must be trained for suitable occupations. The large number of physicians wearing hearing aids is adequate testimony of the fact that deafness is compatible with the practice of medicine. It is not unusual to find a medical student wearing a hearing aid. Certain of the medical specialities may not be pursued as readily as others. One hospital resident who was considering cardiology but who thought that his hearing was slightly deficient, gave up the idea of cardiology when careful examination confirmed his suspicions.

Obviously stenography and salesmanship do not adapt themselves to the deafened. Bookkeeping is a possible field. Nursing is not suited. The trainees may be able to meet the requirements in most departments of the hospital but they have an insurmountable difficulty in the operating room where the wearing of masks precludes the possibility of lip reading. It might seem that the field of occupational therapy would afford opportunities for the deafened. Due to the peculiar reactions of the ill and disabled the supervisors of training of occupational therapy workers do not feel justified in accepting handicapped individuals. The contact between the occupational ther-

apists and the patient generally turns into one in which the patient is endeavoring to aid the handicapped occupational therapist rather than the reverse.

In the training of children with a severe grade of hearing loss it is very important to make use of such residual hearing as they may have. This slight remaining hearing permits the child to develop a rhythm to speech and permits the development of a smooth, musical quality. The contrast between a child with very little hearing and a child with no hearing is remarkable. In both of these instances the training of the speech organs has to be based on an imitation of the tongue positions and the use of the breath as demonstrated by a teacher. If to this nonaural demonstration there can be added a small amount of imitation of sounds, much improvement is obtained.

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RECENT RESEARCHES IN NUTRITION IN RELATION TO PREVENTIVE MEDICINE

NINA SIMMONDS, San Francisco (*Journal A.M.A.*, Sept. 17, 1938), concludes her discussion of nutrition in relation to preventive medicine by saying that the practical application of research in nutrition during the past twenty-five years has been not only to emphasize the value of sunshine and fresh air but also to give the reasons why in a system of diet the following familiar foods have unusual dietary significance: meats, including glandular organs, poultry and fish; eggs; milk in its many forms and products; fruits and vegetables (fresh, canned and frozen); legumes, and cereals and their products, especially whole grain products. Research has provided vitamin capsules, vitamin tablets, brewers' yeast tablets and numerous other vitamin preparations, many of which are excellent supplements to a diet when certain foods are disliked, but one should know what they do not contain as well as what they do contain. Nutrition has been referred to as "an economic, agricultural, industrial and commercial problem, as well as a problem in physiology." However, because of the results of recent researches on diet and its relation to disease conditions, from the standpoint of preventive medicine and of public health, nutrition may now be considered largely a problem of economics and education.

LOW ILEUM INTUSSUSCEPTION CAUSED BY MECKEL'S DIVERTICULUM

Report of a Case

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Acute obstruction of the small intestine, due to intussusception, is a fairly common condition in children under the age of five. From 40 to 75 per cent occur under one year of age. In adults intussusception is not only rare but one of the most fatal abdominal catastrophes. It arises in a variety of ways and gives rise frequently to bizarre symptoms. This condition most often defies recognition and is treated by various surgical and non-surgical methods.

Intussusception is defined as the entrance of one part of the intestine into another. It is nearly always an upper portion that enters into the lower. The intussusception does not enter into the intussusipiens alone, but carries with it its mesentery, so that there is marked interference with the blood supply of the inner segment, and the swelling which follows causes complete obstruction of the bowel.

The most frequent seats, according to Leichlenstern's collected cases, are ileocecal invagination 212 (44 per cent), ileum into ileum 142 (30 per cent), colon into colon 86 (18 per cent), ileum into colon 39 (8 per cent). Fitz collected 295 cases of intestinal obstruction; of these, 93 were due to intussusception; 52 were in males, and 27 in females. Pilz collected 293 cases, showing that 158 occurred in the first year of life. In 1911 Eliot and Corscaden reported 300 cases of intussusception in adults, 100 (33½ per cent) were due to a tumor. Of these tumors 60 per cent were benign polyps, fibroma, lipoma, papilloma, myo-adenoma, myxofibroma, and 40 per cent were malignant carcinoma, sarcoma, malanotic epithelioma. Most of the benign types of tumors originated in the inner layers of the intestinal wall and usually were constricted or pedunculated.

Ileum into ileum intussusception, due to Meckel's diverticulum, being a rare condition, it would, therefore, seem that the following case is of sufficient interest to justify its report.

Case Report

Case 1.—Mr. C. C., a farmer, aged sixty-two, was admitted to the Ionia City Hospital, June 8, 1938, when he complained of abdominal pain and vomiting, which had been present for over four days. The pain was described as a "twisting," colicky nature, occurring in the lower right quadrant. On June 4, while he was cultivating a corn field in the afternoon, he felt a sudden severe abdominal pain that started his vomiting. He was carried to the farmhouse a few hours later where a dose of epsom salts was administered, which he promptly vomited. The relatives noticed that the patient was gradually getting worse and brought him to the hospital. There was nothing in the family or personal history relevant to the present illness. He gave history of constipation, poor appetite, slight shortness of breath and tiring easily. There was no history of previous abdominal colicky pain, nausea, vomiting or intermittent attacks of "gas in stomach" or belching after meals. He never saw black or blood-stained stools, and no mucous or pussy discharge from the rectum. In fact he considered his health had been fairly good.

Summary of Physical Examination: General appearance of a poorly developed and undernourished male, weight 105 pounds, height 5 feet 2 inches, who appeared to be in acute abdominal pain. The skin was dry and slightly pigmented. Head, eyes, ears, and nose were negative. Mouth: had all his teeth removed because of pyorrhea. The tonsils were atrophic. Neck: revealed no cervical adenitis. The thyroid gland was not palpable and no associative signs of hyperthyroidism were observed. Chest expansion was free and equal, breath sounds were clear throughout, no râles heard, R.C.D. was not enlarged. The heart tones were distant but clear and no murmurs were heard. B.P.: 150/85. The vessel-walls were sclerotic. Abdomen: On inspection, no engorged veins, hernia, operative scars, or discoloration could be seen. However, noticed a slight peristaltic wave below the umbilicus. On palpation the liver and spleen were not enlarged. Kidneys were palpable but not tender. No tenderness over the gall-bladder region, but considerable tenderness in the lower abdomen. A tumor mass was felt at the lower abdomen just below the umbilicus slightly to the right quadrant, which was somewhat hard, movable, tender and not adhered to the abdominal wall nor did it appear to be a coil of intestine.

Laboratory Findings: Blood Kahn was negative. W.B.C. was 11,300. R.B.C. was 3,750,000. Polymorphonuclears 72 per cent. Urine examination revealed a one-plus albumin, but no cast, blood or pus.

Pre-operative Diagnosis: Acute intestinal obstruction.

Pre-operative Treatment: The patient was treated by Wangensteen's gastro-duodenal siphonage, enemata and adequate intravenous fluids, but his condition gradually became worse.

Operation: Under ether anesthesia, a midline incision was made, and when the peritoneum was opened, some blood-stained fluid was found, which

had a cadaver odor. A mass the size of an adult fist was felt under the distended coil of small intestine. Further investigation disclosed that the twisted mass was a part of the ileum which had entered into the lower ileum. Reduction was accomplished with some difficulty on account of the edematous bulk of non-viable intussuscepted ileum and its mesentery. About 22 inches of this intussuscepted bowel was released, and a diverticulum two inches long was found in the released ileum located about four feet from the ileocecal valve, which had caused the intussusception and obstruction. Intestinal resection was decided upon and about 25 inches of ileum and part of the mesentery were resected and end-to-end anastomosis was made. The patient reacted well. He was kept on Wangensteen's siphonage and intravenous fluids two or three days. On the fourth day the abdominal wound became severely infected, and all sutures had to be removed. The wound was irrigated by azochloramid isotomic solution 1-3300, and left to heal by granulation. The patient when discharged from the hospital on August 3, 1938, had recovered completely.

Fig. 1. Gross specimen.

Postoperative Diagnosis: Acute intussusception of the lower ileum, and diverticulum.

Pathologic Report (St. Mary's Hospital Laboratory, Grand Rapids, Michigan). No. 14885. Gross specimen: Tissue consists of a mass of ileum approximately two feet long, containing a large diverticulum which apparently is obstructed. Microscopic sections: Sections from the mass of intestine show complete necrosis and loss of epithelium of the intestinal glands. Wall is almost completely necrotic. Diagnosis: Gangrenous small intestine with diverticulum. (Geo. L. Bond, M.D.)

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LATENT LOBAR PNEUMONIA

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The diagnosis of a typical or manifest lobar pneumonia is seldom difficult. When there is a poverty of symptoms and signs so that both parents and attending physicians disregard and treat the condition lightly, then it presents interesting and unusual features which make it worthy of recording if only to call attention to this type, lest it reach epidemic proportions and lest serious complications and sequelæ develop.

Lobar pneumonia, particularly in older children, differs distinctly from that in infants, adults and in the aged. It is comparatively infrequent between the ages of five and twelve. The late winter and spring months show the greatest number of cases. The clinical manifestations are fewer and milder. There is no severe prostration and toxemia as in adults or infants. The physical signs may be indefinite or even entirely absent during the early days, and may not appear until the time of or even after the crisis or when complications are already present. The complications are infrequent; the prognosis is very good; the mortality is less than five per cent and recovery is usually spontaneous and uneventful.

The explanation of the paucity of early physical signs has been furnished by roentgenographic studies. The size and extent of the pathologic process may be limited—a small area of lung tissue only may be involved without interfering much with respiratory function or pulmonary ventilation—thus no cyanosis and no dyspnea.

The location of the process may be high in the axilla with no communication with a bronchus. When the consolidation is localized in the depth of the lung or at the root of the lung without reaching the periphery or surface "true central pneumonia" —recognition is most difficult. Physical signs become manifest only when the process communicates with a patent bronchus or reaches a large surface of the lung.

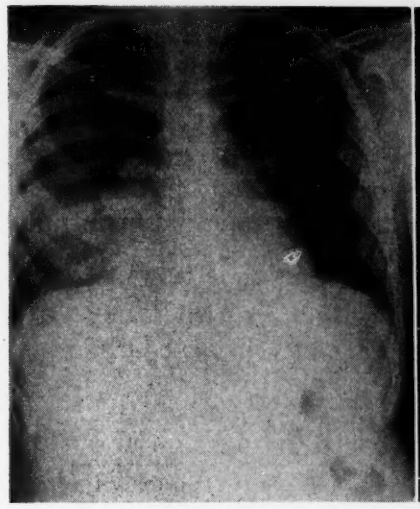

Fig. 1. Case 1. Anterior view, May 21, 1937. Right middle lobe pneumonia. True "central pneumonia." Sixth day after onset.

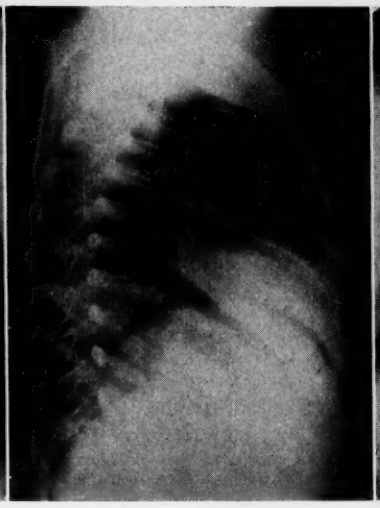

Fig. 2. Case 1. Right lateral view, May 21, 1937.

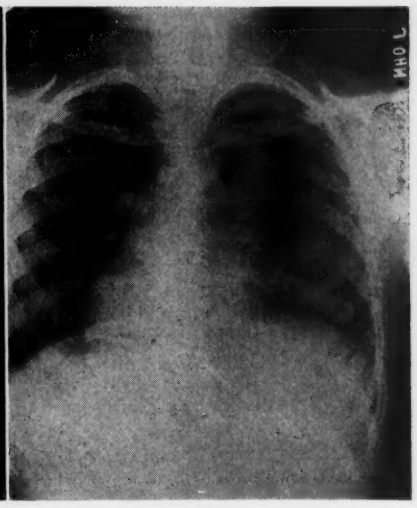

Fig. 3. Case 1. Anterior view, June 7, 1937. Complete resolution and resorption of pneumonic exudate.

The lamentable latent periods of the roentgen method of examination are well known and recognized—as in bone diseases —particularly acute osteomyelitis. The limitations of the physical examination in lung disease are also well recognized. The clinical or physical latency of pulmonary tuberculosis has repeatedly been demonstrated by roentgen examination. That acute lobar pneumonia especially in older children may clinically and physically be latent at least for the first four to six days has been amply proved. A marked disproportion between the x-ray pathologic process and physical signs and symptoms may exist in acute lobar pneumonia as well as in many other chest diseases.

The following two cases observed by me within a period of two months are presented for record as latent lobar pneumonias:

Case 1.—A well developed white female, aged nine, was in excellent health until the morning of May 15, 1937, when she awoke with a slight abdominal pain and a temperature of 104°. There was some slight sensitiveness in the right lower abdomen and she vomited once. The abdominal symptoms cleared up the next day. The temperature continued 102°-104° for the next five days, with no other subjective or objective symptoms and signs. There were no symptoms referable to the respiratory tract. Physical examination of the chest was essentially negative. She did not appear acutely ill. She was up and around. The general physical examination was essentially negative. The continued fever was unexplained. Several urine examinations were negative except for a few red cells. A blood examination May 17, 1937, showed a low total white count. The provisional diagnosis was grippe and she was so treated with simple nursing care. During the night of May 20 there was a profuse perspiration (probably the crisis) after which the temperature gradually subsided. It was normal May 24, 1937. A noticeable cough first developed

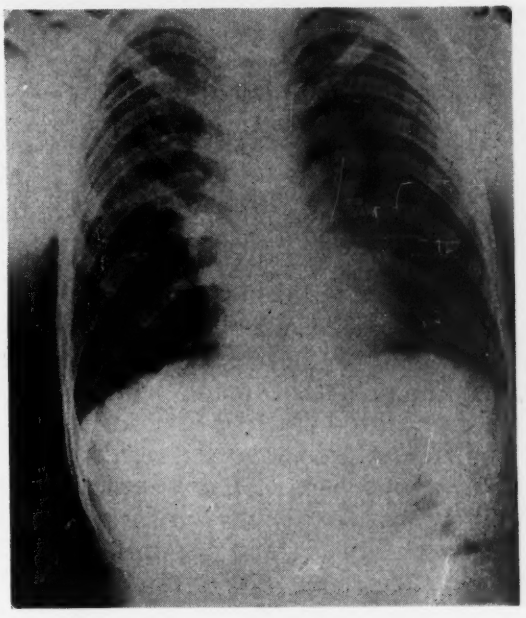

Fig. 4. Case 2. Anterior view, July 16, 1937. Tenth day of illness. Resolving right upper lobe pneumonia. Resolution was complete ten days after this radiograph was made.

May 22, 1937—at first dry, then becoming productive. The cough lasted several weeks. Radiograph of the chest May 21, 1937, showed a right middle lobe pneumonia (Figs. 1, 2, and 3), a true central pneumonia. At no time during her entire illness did she appear seriously ill or uncomfortable. Within three weeks from the onset there was complete resolution and resorption of the pneumonic exudate with a complete spontaneous uneventful recovery.

Case 2.—A white male, aged nine, was in perfect health until the morning of July 6, 1937, when he awoke with a headache and a temperature of 102°. Otherwise he felt and appeared well. He was not in bed. The obscure temperature continued 102°-103° daily, remitting slightly toward night. Subjective and objective symptoms were practically entirely absent for six days. The parents made very light of the boy's continued fever and no physician was consulted. A profuse perspiration occurred on the seventh day (probably the crisis). A slightly productive cough developed the ninth day—the first symptom referable to the respiratory tract. A physician was called the ninth day, at which time he heard numerous râles in the right apex. X-ray examination of the chest, July 16, 1937 (Fig. 4), the tenth day of illness, showed a resolving right upper lobe pneumonia. At no time during his entire illness did the boy look or feel seriously ill or uncomfortable. The temperature gradually subsided and was normal July 19, 1937. Recovery was spontaneous, complete and uneventful within three weeks from the onset.

Comment

In both cases the onset was very sudden with no antecedent cold or acute upper respiratory infection. Symptomatically both were silent until the crisis which manifested itself by a profuse perspiration followed by a productive cough. Continued obscure fever was the only sign. Both patients were in a state of comparative well-being throughout their illness. From the roentgen findings both patients should have appeared and felt much sicker. Sputum typing and early serum therapy was impossible. Oxygen therapy was unnecessary. Recovery was complete and uneventful.

Conclusions

1. Lobar pneumonia is not infrequently latent—particularly in older children.

2. Unexplained or obscure continued fever cases should be investigated for a possible latent pneumonia.

ROLLER SKATE AMBULATORY TREATMENT OF FRACTURE OF THE PATELLA

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Automobile accidents result in types of fractures that were formerly comparatively rare. Patella fracture especially is becoming more frequent. Many of these are due to the knees of the driver being forcibly thrust against the instrument panel, or the steering rod, or the crank handle of the front window of the car. Back seat passengers frequently fracture the knee cap against the back of the front seat.

Indirect violence usually results in a tearing of the ligaments, causing an initial separation of one inch of the fragments. But the fractures by direct violence, such as occur in automobile accidents, are done when the knee is semi-flexed and the middle portion of the articular surface of the patella rests on the condyles of the femur. As a result the bone fractures at the junction of the middle and lower thirds, and the lower third is often comminuted. However, this crushing type of injury causes no strain upon the ligaments with consequent tearing of the fibrous expansion of the quadriceps and allowing a separation of the fragments. The fascia lata and the intact joint capsule further prevent this separation.

Most of the recent articles on the treatment of these fractures advocate open reduction regardless of the question of separated fragments. Physicians who use the closed method usually prefer the open reduction and apologize for not having used it. No appreciable shortening of the period of disability has been noted by those using open reduction. An x-ray examination will reveal separation of the patellar fragments, which can only occur in the presence of severe laceration of the tendon of the quadriceps or the tearing of the lateral portion of the capsule. If no separation is noted and there is no tearing of ligaments, why operate? Since most patellar fractures occurring in automobile accidents are due to direct force and without

separation of the fragments, a conservative method of treatment will give good results, with no danger from an anesthetic nor from operative trauma, and with less expense to the patient.

Satisfactory results are not achieved when bony union is not followed by the full power of extension and flexion. R. Watson Jones relates a case of fracture of the patella in a woman in London 200 years ago who was treated by John Hunter. Hunter says that after prolonged treatment the knee joint presented the dual problem of extension limited by powerlessness and flexion limited by stiffness. Be it noted his problem was not the securing of bony union but a functioning knee joint. While treating the knee-joint instead of the fracture may we not go further and treat the patient as a whole? Ambulant treatment will do much for the patient. Bony union will be facilitated. The general atrophy from disuse of the unaffected parts may be modified, while mobility will add greatly to the patient's morale, and in selected cases the economic factor may be controlled.

The following treatment was given to a comminuted fracture of the left patella due to an automobile collision in which the driver of one car fractured the kneecap against the crank handle of the side window. There was little if any separation of the proximal fragment from the lower fragments. A padded posterior aluminum splint reaching from mid-thigh to the ankle was applied. This was held in place by adhesive strips with especial care given to hold the fragments in close approximation by strips above and below the patella. Two inch roller gauze bandage completed the immobilization. The leg and thigh were elevated for three days; then the patient sat up in bed with the leg extended as desired. Sitting up relaxed the rectus femoris (because it is attached to the pelvis) as much as elevation.

On the sixth day after injury, low heeled oxfords were worn. The set-screw of an ordinary roller skate was removed to disengage the front pair of wheels from the rear pair. The back part of the skate was strapped on the shoe worn on the affected side. The shaft of the skate was held firmly to the foot by means of strap webbing applied in a figure of eight around the ankle and foot. Weight bearing and flexion of the knee were avoided and relaxation of the quadiceps femoris was obtained when the patient became ambulant on crutches and the roller skate. Every four or five days the splint was removed for massage and then reapplied. In walking, with each forward surge on the crutches, the splinted leg was trundled ahead on the skate. To lift the leg over an obstacle such as a thick rug the right crutch was used as a lever. Since the adductor muscles are not attached to the patella there was no difficulty in turning by using the sound foot as a pivot and the adductor muscles for circumduction. The patient walked forward down steps, but went up stairs by going backward and dragging the affected leg. The patient, a physician, attended to all office practice and effected several deliveries at the hospital during the period of wearing a skate. Bony union occurred in five weeks as seen by radiograph. At the end of the sixth week the splint was removed and the knee bent over pillows until 45 degree flexion was obtained, then the patient began to walk by the aid of crutches. In three days crutches were discarded for a cane and by the end of the seventh week the cane was

Fig. 1. Roller skate and crutches used in ambulatory treatment of fracture of the patella. Note (*a*) relaxation of the rectus femoris; (*b*) immobilization of the knee joint; (*c*) the absence of weight bearing.

discarded, and the patient drove the car and mounted and descended steps using only the hand rail. All lines of practice were then resumed. At the end of the eighth week all mechanical assistance was discarded. By this time there was full flexion of the leg upon the thigh, but some atrophy of the quadriceps persisted which was rapidly disappearing under the exercise of walking up stairs.

The after-care of patellar fractures following bony union must be intensive and persistent and can best be done by physiological use. R. Watson Jones also says "the most complicated of gymnastic machines and of electric batteries cannot equal the patient's own efforts. During half an hour of physiotherapy a masseuse may stimulate a quadriceps fifty or sixty times. What is that to compare with the constant contraction of postural tone? The valuable time of the masseuse should not be occupied in gently lulling the patient to sleep with soothing massage, but in rigorously goading him into activity, teaching him to regain his own mastery over the inactive muscle, and instructing him in postural and resistance exercises which can be practiced, not for half an hour a day, but for the whole of his ten or fifteen waking hours."

Certain physiological benefits of the skate method of treatment seem obvious. Lateral and rotary movements of the joints effected through adduction and abduction tend to break up early adhesions. Any interposed soft tissue is pulled out by these same movements. The bony parts are stimulated to solid bony repair by the slight friction from movement. These same movements stimulate blood supply and keep up nervous impulses through related group muscles in such a way as to act as trophic aids. The posterior splint allows slight flexion and its small bulk and weight is of aid to the ambulatory patient. The free ankle results in movements of the foot and further improvement of circulation. But greater than any physiological benefits from the use of the roller skate is the almost uninterrupted activity of the patient because of its use.

A word of caution may be given at this point. The free ankle allows for no stiffness at the joint during the immobilization of the knee joint, but the ligaments are weak and early weight bearing resulted in an internal rotation of the ankle, with weakness and swelling of the joint. This was corrected by adhesive plaster strapping with the foot everted, and by the aid of a shoemaker. The shoemaker was requested to split the sole of the shoe on the outer side and insert a long thin wedge of leather. The heel rubber was also lifted and another wedge inserted. The adhesive strapping was discarded in a few days, since the shoe gave sufficient relaxation to the lateral ligaments of the ankle joint and put the medial ligaments on the stretch.

J. Niemach reports early active motion during the first week following fracture, using the physician's hands to keep the fragments from separating. This method would probably add much to the above treatment of fracture of the patella without separation.

This report is submitted in the hope that it may aid in treatment of patellar fractures and possibly be of use in other fractures below the knee. It is a new departure in treatment, but may serve to further increase interest in the ambulatory treatment of various fractures.

Conclusions

1. The conservative closed treatment in uncomplicated cases of fracture of the patella gives good results with less danger to the patient, and with less expense.

2. Ambulatory treatment on a roller skate is advocated as a method of securing bony union, with less immediate and remote disability. In addition the patient may attend to all or part of his duties.

3. A report of a case treated by the ambulatory skate method is cited wherein the patient was only partially incapacitated for duty and returned to full duty in eight weeks.

4. Physiological use is the best after-treatment of these cases.

PROLAPSE OF THE UTERUS*

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J. L. BAER

Prolapse of the uterus exists when this organ descends from its normal level in the pelvis. As long as all parts of the uterus are above the level of the ischial spines there is no prolapse. Elongation of the cervix may carry the external os far below the spines, even to the vestibule. If the parametrial and paravaginal supports hold the corpus uteri at its normal level there is still no prolapse. The tone or slack in these supports is readily determinable on examination. Such examination may be in the recumbent posture with straining or with gentle traction on the cervix, or in the standing posture with straining. There is only slight play in the vertical axis when the uterus is normally supported.

A precise classification of the degree of prolapse may be stated as follows: first degree, descent of the uterus, the external os reaching below the spines of the ischium; second degree, descent of the uterus, the external os reaching the vaginal atrium; third degree, descent of the uterus, the external os protruding; procidentia, protrusion of the entire organ.

The factors that determine the development of this condition can best be understood by a study of the normal relations of the uterus. At birth this tiny organ lies in the upper pelvis, the fundus pointing vertically. Between birth and puberty something occurs with the result that in 80 per cent of young girls the fundus points toward the symphysis and the corpus is bent almost at right angle to the cervix so that the corpus is now almost horizontal when the individual stands.

In 20 per cent the fundus lies against the sacrum and eventually is found at varying depths behind the cervix and in the sacral hollow.

I believe Sturmdorff has given one important explanation of this variation. The degree of pelvic inclination can determine whether the corpus will normally point anterior or posterior. At birth, symphysis and sacral promontory are on the same horizontal level. When the infant begins to stand and walk the pelvis undergoes a transverse rotation which carries the ilia and sacrum backward and drops the symphysis below the level of the sacral promontory. In the vast majority this "pelvic inclination" approximates 60 degrees. Now the lines of intra-abdominal pressure are deflected by the jutting promontory and iliac fossæ against the back of the corpus uteri, bending it forward against the bladder. Intestinal coils occupy the posterior pelvis and are kept out of the vesico-uterine space.

Lesser degrees of pelvic inclination leave the uterus exposed on both surfaces. Since the posterior trunk is rigid while the abdominal musculature is constantly active, the erect uterus tends to be thrust backward and remain so.

Another explanation of retrodisplacement is the variation in the development of the superior pelvic fascial plane. Foreshortening of the pubo-vesico cervical segment holds the cervix forward, counteracts the effects of pelvic inclination and results in retrodisplacement. When posterior shortening exists, the uterus is found in retrocession. In both these developmental defects the uterus is usually hypoplastic or even infantile.

Since prolapse of the uterus is nearly always associated with and preceded by retrodisplacement it is reasonable to regard primary retrodisplacement as a predisposing factor in prolapse.

Prolapse can occur only when the supporting structures of the uterus give way. Thirty years ago Halban and Tandler demonstrated that these supporting structures are the fascial attachments at the cervico-uterine junction, i.e., the bases of the broad ligaments (cardinal or Mackenrodt ligaments) which insert into the supravaginal cervix and into the upper vaginal wall; the pubo-vesico-cervical fascia; and

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the utero-sacral ligaments. This has been well demonstrated recently by Mengert.

Defective development or injury to these supports will eventually result in descent of the uterus. The state of the pelvic floor and perineal body plays no role in this drama. Innumerable instances of extensive destruction of the lower birth canal, even conversion of vagina and rectum into a cloaca, may be associated with uteri at normal levels. The presence or absence of an enterocele is likewise not a causative factor in prolapse.

The effect of defective development is well shown in the occasional instances of prolapse in the nullipara. The corpus may be forward or backward, the latter being the commoner finding. The presence of a spina bifida demonstrable externally or by Roentgen-ray picture (spina bifida occulta) is a sufficient clue to the basis for the defective development of the supporting fasciæ.

Trauma accounts for nearly all instances of prolapse. The location and extent of the injury determines the degree of prolapse in the first instance and the involvement of adjacent viscera, preëminently the bladder, plays a secondary role. It has long been recognized that retrodisplacement (usually retroversion) is the first clinical evidence in the uterus of birth trauma which may eventuate as a prolapse. With corpus and cervix both pointing in the vaginal axis, intra-abdominal pressure exerts a direct effect on the enfeebled supports.

Women with primary retrodisplacement should show a decidedly higher incidence of subsequent prolapse. A study of enough case histories extending over at least a generation would be necessary to establish or refute this association.

Retrodisplacement carries another threat since broad ligament varicosities and passive congestion of the parous uterus are part of the picture of retrodisplacement. This engorgement adds to the weight of the corpus and further taxes its supports.

Injury to the anterior fascial segment determines the herniation of the bladder. Cystocele is exceedingly common. It may completely obliterate the anterior fornix. Indeed, it may produce marked elongation of the cervix. Yet if the lateral and posterior uterine supports are sound, the corpus will remain at a normal level. If these supports have yielded, then the cystocele and the retrodisplacement unite to aggravate the prolapse.

TABLE I. AGE INCIDENCE

			1928 Series	1937 Series
Youngest 22	Oldest 75	Average	45.8	46.2
Under 30			12	12
30-40			55	60
40-50			80	63
50-60			26	46
60-70			33	33
70 and over			6	7

In a ten-year study at Michael Reese Hospital the age incidence of patients with prolapse of the uterus ranged from twenty-two to seventy-five years. The average in our last series was 46.2 years. This is practically the same as in the series previously reported (45.8 years).

TABLE II. PARITY INCIDENCE

Nulliparas	9	Para viii	15
Primiparas	34	Para ix	11
Para ii	87	Para x	8
Para iii	81	Para xi	2
Para iv	72	Para xii	3
Para v	47	Para xiii	1
Para vi	36	Para xiv	2
Para vii	17	Average parity	4.0

In the last 441 patients with prolapse all but nine had borne one or more children. The average number of pregnancies per patient was 3.5+.

TABLE III. STERILIZATION

	1928 Series	1937 Series
Sterilized	46.0%	14.9%
Sterilized previously	1.3%	
Postmenopausal	40.0%	41.1%

Sterilization was performed on 46 per cent of the women in the 1928 series in contrast to an incidence of 14.9 per cent in the 1937 series. This difference obviously was due to the fact that the interposition operation was done so frequently in the first series and was to a large extent replaced by vaginal hysterectomy in the second series.

The 1937 group showed a considerable increase in two of the outstanding symptoms as compared with the previous series; namely, protrusion and bladder distress.

TABLE IV. SYMPTOMS

	Percentages in 1928 Series	1937 Series
Protrusion	58.6	83.7
Discomfort	53.6	46.1
Abdominal pain	18.1	8.1
Backache	28.1	23.1
Bearing down	17.3	14.9
Bladder distress	33.6	40.6
Frequency	30.0	20.8
Dysuria	13.1	10.4
Incontinence	5.4	9.4
Leukorrhea	8.6	14.4
Dysmenorrhea	5.3	1.3
Menorrhagia	7.6	8.5
Metrorrhagia	4.5	9.5

The varying degrees of prolapse and the occurrence of associated pathology is tabulated in Table V. I wish to call particular attention to the increased incidence of enterocele in the second series. Even with the increase the incidence is low (3.1 per cent). I cannot agree, therefore, that the deep cul-de-sac is a predisposing factor in the development of prolapse of the uterus. I feel that the significance of the deep cul-de-sac has been overestimated in the recent literature.

TABLE V. PATHOLOGY

	Percentages in 1928 Series	1937 Series
Prolapse		
First degree	11.4	7.8
Second degree	33.2	35.2
Third degree	55.4	57.0
Cystocele and rectocele	73.6	73.7
Rectocele only	9.5	11.8
Enterocele	1.4	3.1
Fibroids	9.0	17.7
Fibrosis uteri	2.7	2.4
Adenomyosis		5.9
Diseased cervix	24.5	30.7
Polyp	1.3	7.2
	1928 Series	1937 Series
Ovarian cyst	5	11
Ovarian fibroid	1	1
Pregnancy		2
Diabetes	6	4
Cardiovascular renal	6	7
Salpingitis	1	1

Choice of Operation

The primary objective in any operation designed for the cure of prolapse is the permanent achievement of that result. A great variety of procedures has been developed to accomplish this purpose. They may be divided into three general groups: that in which the vagina is sacrificed; that in which the uterus must or may be preserved; and that in which the uterus is sacrificed.

The Le Fort Group (sacrifice of the vagina): Vaginal occlusion (colpocleisis), partial or complete, is the operative procedure adapted to the elderly patient with atrophy of the cervix and with senile atony of the anterior and posterior fascial and muscular structures and in whom marital relations have ceased. This operation, commonly called the Neugebauer or Le Fort operation, has been known for 60 years but has had only a limited popularity until recently. The original procedure is exceedingly simple, is practically 100 per cent curative, and can be done under local infiltration or regional block anesthesia. It involves little or no blood loss or postoperative shock. There are two variations from the original Le Fort colpocleisis: complete excision of the vagina (colpectomy) for those patients in whom there has been a previous total hysterectomy, either abdominal or vaginal, and in whom prolapse of the vagina has occurred as a sequella; and a recent suggestion (Goodall) to make the Le Fort procedure available for elderly women in whom opportunity for marital relations must still be maintained. In this operation the occlusion of the vagina extends downward for one-third to one-half of its length, leaving the distal portion patulous. In two instances this has proved successful in both objectives.

Conservation of the uterus: Conservation of the uterus is mandatory in women in the fertile years who look forward to further offspring. I have found parametrial fixation best adapted for this purpose. I formerly employed the Gilliam suspension operation combined with cervical amputation and vaginal reconstruction as indicated. I have discontinued this operation for this purpose because parametrial fixation obviates the necessity for laparotomy and consumes no more time than the vaginal work required in connection with the Gilliam suspension.

This operation properly executed is curative and usually permits of subsequent pregnancy and delivery without recurrence. The operation is simple and has a minimal morbidity.

Conservation of the uterus is elective and, in my opinion, desirable even though fertility is no longer a problem, provided there is no uterine pathology. In such patients prolapse may be cured by the above procedure, parametrial fixation. If the patient is still in the child-bearing years the operation may be combined with sterilization.

The interposition operation has served very well for the cure of prolapse and has given a high percentage of cure. In women of the child-bearing age sterilization is compulsory in this operation. The operation is elected for those patients with a large cystocele, a normal corpus uteri neither too large nor too small, freely movable, and without gross adnexal pathology. Where formerly the interposition operation was done in 42 per cent of all instances of uterine prolapse by the gynecologic staff of the Michael Reese Hospital, its frequency in the last ten years has dwindled to 13.6 per cent.

The first advantage of the interposition operation was supposed to be the cure not only of the prolapse but of very extensive cystocele. The same result can be achieved equally satisfactorily by parametrial fixation plus proper vaginal reconstruction.

Sacrifice of the uterus: Vaginal hysterectomy has been strongly advocated for the average instance of prolapse of the uterus where fertility is no longer desired. Its advantages are said to be the removal of an organ which is a potential source of pathology, the possibility of complete access to and an adequate reconstruction of the superior vaginal plane, and the cessation of the recurring menstrual cycle with its accompanying handicaps. Its disadvantages are said to be the loss of the continuity of the structure of the superior plane of the pelvis which should favor adequate repair of the prolapse; a failure following hysterectomy means prolapse of the vagina, which is more difficult to cure than a secondary operation upon the patient in whom cure was attempted with conservation of the uterus; there are women to whom the loss of the menstrual cycle is a psychic shock; the unanswered question of the role of the menstruating uterus in the maintenance of the hormonal balance in the female genitalia; and finally, changes and symptoms in the vagina due to loss of cervical secretion. In my opinion vaginal hysterectomy for the primary cure of prolapse should be limited to those patients in whom the pathology of the uterus itself carries the indication for hysterectomy.

Important Principles in the Operations Recommended

The Le Fort Colpocleisis: The purpose of this operation is the construction of a broad bridge of adhesion between the posterior and anterior denuded vagina extending from cervix to atrium, thus locking the uterus above this barrier. Bilateral vaginal tunnels are provided for such secretion as may continue from the cervix. This operation should be limited to elderly women. Therefore prolonged rest in bed is not desirable. However, prolapse in general is frequently accompanied by passive congestion, edema, and ulceration of the exposed surfaces. These conditions should be controlled previous to operation. Local infiltration or regional block anesthesia is desirable. In operations for prolapse in which the uterus is conserved, preliminary curettage should be done. This may be omitted in the Le Fort operation in which one is dealing with an atrophic organ which has been quiescent for many years.

In the classical operation the anterior and posterior vaginal walls are denuded in two parallel strips. The posterior strip extends from the region of the external os to the vaginal-perineal juncture. Anteriorly the denudation should stop not less than 3.0 cm. away from the external urinary meatus. If the anterior denudation is carried too close to the external urinary meatus the subsequent broad approximation of the posterior and anterior denuded vaginal walls results in a tug on the periurethral supports which may lead to urinary incontinence. Complete hemostasis is imperative. At the close of the operation the patency of the bilateral tunnels which extend from the atrium to the cervix should be confirmed. A permanent catheter adds materially to the comfort of the patient and simplifies postoperative care.

A recent modification of this operation (Goodall) is identical in all respects except that the distal one-half to one-third of the vagina is not included and remains available for marital relations.

Colpectomy: This operation is indicated for women in whom there has been a previous hysterectomy and in whom there is now a prolapse of the vagina. It can be employed only if marital relations have permanently ceased. The entire vaginal mucosa is dissected away except the usual 3.0 cm. adjacent to the external urinary meatus. Closure must be from within outward and is best carried out by approximation of the lateral walls. This provides for a complete pelvic floor support and adequate support for the prolapsed bladder.

The Brady operation is available for the

TABLE VI. OPERATIVE RESULTS

Operations	1928 Series			1937 Series		
	No.	Deaths	Gross Morbidity Per Cent	No.	Deaths	Gross Morbidity Per Cent
Interposition	91	1	55.1	30	1	40.0
Vaginal hysterectomy	7	1	43.0	116		50.0
Ries fixation	28	1	35.7			
Ventrofixation and plastic	27		44.4	8		12.5
Vaginal plastic	17		11.8	9		33.3
Vaginal occlusion	14		21.7	29	2	3.7
Ventrosuspension	14		57.1	13		7.5
Extrafascial fixation	13		46.0	4		25.0
Supravaginal hysterectomy and plastic	5		60.0	3		33.3
Cervical stump fixation	2					
Panhysterectomy and plastic				3		100.0
Kielland-Wertheim interposition	2	1				
Halban-Porges				6		50.0
Total and average	220	4 (1.8%)	44.5	221	3 (1.3%)	37.7

cure of prolapse of the vagina in patients in whom marital relations must be preserved. This is based on the principle of anchoring the vaginal vault to the anterior abdominal fascia with permanent silk sutures.

Parametrial fixation: This operation is devised to restore a uterus reduced to normal size to the normally anteflexed position. The over-all length of the uterus should not exceed 8.0 cm. The posterior placement of the cervix is accomplished by throwing a sling of parametrial tissue from both sides across the anterior surface of the cervix. Reconstruction of the perineal body and pelvic floor aids in the maintenance of the posterior placement of the cervix. The degree of denudation of the anterior vaginal wall is determined by the extent of the accompanying cystocele. Experience has shown that subsequent pregnancy and labor do not usually result in a recurrence of prolapse after a properly executed parametrial fixation. Therefore sterilization is not an essential of this operation. If sterilization is desired, the vesico-uterine reflection must be opened and the uterine tubes occluded by the Walthardt technic (modified Madlener). This involves the crushing of two arms of a loop of uterine tube and ligation in the crushed area with No. 5 waxed silk. This is quick, bloodless, and thus far has not failed in my hands.

The interposition operation may be considered as an alternative in lesser degrees of prolapse with marked cystocele and in women past the child-bearing age. The interposition operation was devised to accomplish acute anteflexion of the uterus and utilization of the uterus as a carrier for the bladder. Here, as in all procedures in which the uterus is conserved, adequate amputation of the cervix is essential. The bladder must be widely dissected free from the cervix and dislodged upward. The vesico-uterine reflection is opened and the fundus uteri is anchored under the symphysis with lateral mattress sutures fixed to the subpubic ligaments.

Vaginal hysterectomy: There are various satisfactory methods for vaginal hysterectomy. When this operation is employed for cure of prolapse it is obvious that the structures remaining after the uterus is removed must be so treated as to insure against subsequent vaginal prolapse. The broad ligaments must be approximated in the mid-line and even imbricated when redundant. Both the broad ligaments and the utero-sacral ligaments are available as supports for the vaginal vault. When the utero-sacral ligaments are relatively short it is my preference to secure the posterior vaginal cuff to each ligament separately. When the utero-sacral ligaments are long I prefer to unite them in the mid-line anterior to the rectal tube. The round ligaments are brought together in the mid-line when they are slack, otherwise they are secured to the anterior vaginal vault separately. When possible, anterior and posterior peritoneal edges are brought together, or the anterior peritoneum may be gathered in a purse string which unites the two round ligaments and the posterior peritoneum included similarly with the utero-sacral ligaments. The vaginal vault may be closed vertically or horizontally. I prefer the horizontal closure. I have not found it necessary to use any form of drainage.

TABLE VII. REMOTE RESULTS

Operation	No. Followed	1928 Series			No. Followed	1937 Series		
		Success	Partial	Failure		Success	Partial	Failure
Entire series	121	85.8	6.1	8.1	127	78.7	14.2	7.1
Interposition	64	87.5	4.7	7.8	19	89.2	10.8	
Vaginal hysterectomy	5	100.0			65	70.7	18.4	10.9
Vaginal occlusion	10	100.0			18	94.4		5.6
Ventrosuspension	11	91.0		9.0	6	66.6	33.4	
Ventrofixation	19	94.7		5.3	4	75.0	25.0	
Kocher	12	100.0			4	75.0		25.0

Operative Results

In Table VI will be found a tabulation of the operative results following various types of operations in the last two series analyzed in the Michael Reese Hospital. There has been a 25 per cent decrease in gross mortality and a somewhat similar decrease in gross morbidity, the latter dropping from 44.5 per cent to 37.7 per cent.

Remote Results

End-results by personal examination were obtained following the various types of operations in 56.0 per cent of the patients, and the results are listed in Table VII. It should be noted that the highest percentage of failure, 10.9 per cent, was found following vaginal hysterectomy. The percentage of failure for the entire series was 7.1 per cent as contrasted with 8.1 per cent in the 1928 series.

Palliative Treatment

Among women who suffer from varying degrees of prolapse of the uterus with symptoms there are certain groups who must be relieved without surgery. These include the women who refuse surgery, women whose physical condition makes it unsafe to subject them to any type of operative procedure, and the occasional instance of prolapse associated with early pregnancy. For these patients, relief must be provided by some form of supportive device.

The oldest of the modern devices is the ball pessary, glass or vulcanite, of a size sufficient to prevent its extrusion. This can be used only if the perineal body affords reasonable support and if its use does not interfere too completely with emptying of the rectum. As with all types of pessaries it must be removed at intervals of a month to permit inspection of the vagina for decubitus and ulceration. I have used this very rarely in recent years.

The inflated rubber doughnut is quite satisfactory for first and second degree prolapse. It must be fitted so that it is not too tight, and must be removed monthly, at which time it will be found to have undergone some deflation. It can be refilled with air by using a fine needle and a 5.0 or 10.0 c.c. syringe and kept in use until the rubber surface becomes roughened.

The cup pessary is ideally adapted to the patient who has a third degree prolapse or a procidentia and in whom there is a well preserved cervix and no perineal support. The cup carries the cervix and the length of the stem should be appropriate to the depth at which the cup sits in position. Support is provided by elastic perineal straps fitted to an abdominal belt.

The most recent device which has proved eminently satisfactory for third degree prolapse and procidentia is the Gellhorn vulcanite pessary. This comes in two sizes, is easily adjusted, but requires some perineal structure to maintain it.

Summary

Definition and classification of prolapse is discussed. The relationship between congenital and acquired retrodisplacement of the uterus and the development of prolapse of the uterus is analyzed. Trauma resulting from childbirth is responsible for nearly all instances of prolapse. Analysis of two five-year studies totaling 441 operations for the cure of prolapse is presented. Choice of operation is considered in three groups: sacrifice of the vagina; sacrifice of the uterus; and conservation of the uterus, either mandatory or elective. Appropriate types of operation under each group are indicated. Important principles in the operations recommended are set forth. Operative results, both immediate and remote, are given. Palliative treatment is discussed for those women who must be relieved without surgery.

THE INJECTION TREATMENT OF HERNIA

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For over one hundred years the injection treatment has been practiced, but throughout this entire time, until about five years ago, it has been employed for the most part by quacks and irregular practitioners, and I feel very strongly that the exaggerated claims being made for the method by many enthusisasts at the present time is in danger of turning it back to the hands of irregulars and quacks unless a warning is heeded to stop this trend of exaggeration.

In the last five years, a great deal of interest has been shown in this method by many men of unquestioned reputation. They have been immensely impressed with the possibility of cure, and, in many cases, because of their apparent fine results, have become so enthusiastic about it that they have claimed results beyond anything that mature investigation will substantiate. As a result of these claims, many more men are taking up this treatment but they will, undoubtedly, have a very great disappointment if they expect to accomplish anywhere near what is claimed by its enthusiastic proponents.

I have been interested in this subject and made an investigation of it for about five years. I have continuously carried on experimental work for a period of two and one-half years. I have been doing the work clinically for five years and have been doing it quite extensively for about two and one-half years, with a very close follow-up system, and I am convinced that the method has a definite place in surgery.

All of the men writing on this subject have stressed various matters that they consider of importance. None of them has, to any great extent, stressed the point of utmost importance, namely, the selection of cases.

Many claims are made for the cure of 90 to 98 per cent in all hernias. This is absolutely ridiculous, as fully 50 per cent of all hernias are not proper subjects for this treatment under any circumstances. This 50 per cent is made up of the following cases, and, while the percentages mentioned may not be absolutely correct, they are near enough for all practical purposes. The cases that are not to be considered as subjects for this treatment are as follows: Hernia other than inguinal, *i.e.*, umbilical, ventral, femoral, etc., 8 per cent; hernia not entirely reducible, 5 per cent; direct hernia, 17 per cent; large indirect hernia, 10 per cent; too obese, 10 per cent; making a total of 50 per cent of all hernias which are not proper subjects for the injection treatment.

It is ridiculous to expect any solution or solutions to be capable of building up a wall to fill in the large defects which are so commonly met with in the types of hernia such as the following:

In the direct type of hernia that many are claiming to cure, there is usually a defect one inch or more in diameter. What possible chance is there for a closure of this great defect? Into what tissue can they inject in the region where the direct hernia protrudes in the hopes of closing this defect?

In the femoral region there is nothing but the firmest kind of fascia, no muscles to fibrose or contract. In addition to this, there is a very definite danger of injecting into the femoral vein. In recurrent hernia, adhesions are numerous and impossible to locate. The intestine is almost invariably adherent in the defect. In umbilical hernia, the hernial ring is entirely firm fibrous tissue and its contraction or narrowing by injection seems to be practically out of the question. In the large indirect hernias, the defect is too great to hope for cure. In the very obese patient, one cannot be sure enough of exactly where the injection is going to make it a safe procedure. In the hernias that are not entirely reducible, all are agreed that it is too dangerous to attempt injection.

This leaves, then, 50 per cent of hernias which, we believe, are proper subjects for the injection treatment and this group is composed entirely of *small indirect* hernias on moderately thin individuals. Now, I do not claim that *none* of the hernias in the aforementioned group can be cured, but so very small a percentage can be cured

that it is certainly not worth while to subject them to the treatment.

The rationale of this treatment is clear. Many people have attained the age of forty to fifty and then developed a hernia and on operation it was found that the patient had a definite congenital sac. In other words, the fifty-year-old patient carried the sac for forty-nine years without having a hernia. Then, at the age of fifty years, he suddenly shows up with an indirect inguinal hernia. It is interesting to contemplate just what happened that he should develop a hernia at this time. The only thing that could have happened to him was a gradual relaxation of red muscle fibers of the internal oblique and transversalis at the internal ring surrounding the cord and the neck of the sac, this relaxation getting to such a stage that it allows a protrusion of some of the abdominal contents into this already preformed sac. Now, it does not require that some great catastrophe take place in this region. It usually means only that a very slight change in this fifty-year-old man has taken place and a very slight difference between the condition at forty-nine and at fifty, but at forty-nine he did not have a hernia and at fifty he has one. While a *slight* thing occurred to him in this very definite region then a very *slight* thing needs to be done to put this man back into the condition he was at forty-nine, when he had no hernia. The only reasonable way to view the subject of the injection treatment at all or entertain it for a moment, is to view it from this standpoint.

It seems reasonable that we should be able to inject into these muscle fibers some agent which will cause some fibrous tissue formation and some resulting constriction in them which will take them up enough to prevent anything dropping into this sac. Both our clinical experience and our experimental work seem to bear out this contention.

Most of the men who have written on this subject have stated just where the first ring was to be found. They have generally located the internal ring one centimeter above the half-way distance from the spine of the pubis to the anterior superior spine of the ilium. These writers have invariably said that in making the injection one should invaginate the scrotum through the external ring and palpate the internal ring. It is absolutely impossible to invaginate the scrotum through the external ring sufficiently to palpate the internal ring, if the internal ring is where these writers say it is or where it is normally found. It is at times possible to palpate the internal ring through the external ring but this is always in the case where the internal ring has been moved down much closer than normal to the external ring. This is in the large hernia of long duration where repeated coughing and repeated straining has pushed it from its normal location. It has been repeatedly stated that after injecting around the internal ring one should put a number of injections down the inguinal canal. This again is entirely uncalled for and of no value. It must be borne in mind that an indirect hernia is in itself not due to a defect in the hernial canal. It is not primarily evidence of weakness or defect in the inguinal region excepting at the internal ring. The fact that a man has an indirect hernia is absolutely no evidence that he is in danger because of any weakness throughout the extent of his inguinal canal. This is an entirely different condition from that found in a direct hernia, in which case, as pointed out above, we would not consider the use of this method.

There is no more reason for making "prophylactic" injections in the inguinal canal than there would be for operating on a patient as a preventative for fear of his getting a hernia. Many writers on this subject have stressed the point that if a hernia returns after it has been injected we should not consider it a *recurrence* but rather insufficient treatment. It would be just as fair to say, after a recurrence following an operation, that a man has not had a recurrence but has had an insufficient operation.

Now that we have disposed of 50 per cent of hernias which are not proper subjects for this treatment we should take up the matter of dealing with the remaining 50 per cent. As mentioned, these constitute only small indirect hernias on thin individuals. What percentage of these hernias can we cure? It is reasonable to assume that we can cure 25 per cent of these subjects or, in other words, 12.5 per cent of all hernias. This is a tremendous difference from the 90 to 98 per cent cures claimed by many writers, but I am equally sure that this claim can be substan-

tiated by many men after a careful selection of patients and a meticulous technic in their treatment. I believe that in stating this I am a better friend of the injection treatment of hernia than many who are making extravagant claims for it, which claims cannot be substantiated over a long period of time. Unfortunately for us, while "Time heals many wounds," it does not heal *any* hernia. It (time) is the only element, however, by which we can judge results in this treatment as well as in the operative treatment.

Innumerable times I have treated cases and eliminated any sign of a hernia only to have the patient present himself a few months after he has removed the truss with the hernia the same or similar to that which he had when he started the treatment. On the other hand, quite a number of cases of hernia have not recurred. *Time,* and a lot of it, is the only thing that will tell us how near right our percentage estimate is going to be. We have full statistics on the cases treated to date but a partial list of our results may suffice for the time. We do not start to figure time until after the truss is removed. The following cases, however, are to all appearances cured: Two cases with truss off eighteen months; two with truss off fifteen months; six with truss off one year; 12 with truss off nine months to one year, and many more cases for a less period of time.

We do not, at present, have enough confidence in the injection treatment to promise a cure nor to charge for our injections *per se*. The patient is told what his chance of cure is and an arrangement is made on the basis that if the injections fail to cure him he will still be operated upon without an additional fee. When a sufficient number of injections has been given, and the man removes his truss and finds after a time that his hernia has returned, he is advised to have an operation. He is further reminded that his operation is all paid for. However, it has been our invariable experience that these men, even under these circumstances, have decided to take more treatment rather than be operated on, as they are still hopeful that they may be thus cured.

Our experimental work has been carried out, as mentioned, continuously for two and one-half years. In the first experiment, injections of the various available proprietary solutions were made. Sections were made from these tissues at ten-day intervals. The early sections all showed a beautiful condition of fibrosis and we were very enthusiastic. However, as the later sections were taken at forty and fifty days and up to one hundred days, the fibrotic tissue rapidly disappeared until there was nothing left. We were then reminded that this did not compare with the clinical application since we had given only one injection in each area in the experimental work. We, therefore, on the next series, made five injections in the one area, repeating our method of taking sections at about ten-day intervals. At the end of a similar number of days, we found a condition very similar to the first experiment. Several other series of experiments were tried with much the same results and some had to be eliminated on account of technical errors. Our last experiment (which was carried out under a very careful control system, in which two separate dogs were used for each date for each solution) showed an extensive amount of fibrotic tissue in the early sections but a gradually diminishing amount in the later ones up to the last, which were taken eighty days after last injection, and, while these contain some definite evidence of fibrosis, it is much less than the early ones had.

I feel that the very great enthusiasm of many of the proponents of this method was due to the fact that their results were estimated at too early a date after the treatment had been administered, as note Coley's analysis of Harris' and White's report:

> "The analysis of series published by Harris and White, however, reveals the fact that in thirty-three out of one hundred cases the treatment had not been completed. Moreover, out of the remaining sixty-seven, thirty-nine had been observed less than three months after removal of their truss; fifty-six for less than five months; and only eleven had been followed for a period of six months or more."

Burdick and Coley reported ninety-two cases treated with 3.44 per cent cures.

If Burdick and Coley had selected their cases on the basis recommended in this article and had eliminated all cases *not* subjects for this treatment, their results on the remaining would have proved very similar to ours.

Summary

1. There is a very definite value to the injection treatment, which has been greatly exaggerated by many enthusiasts.

2. The selection of cases, according to

the plan outlined here, is of the utmost importance.

3. The percentage of cure will be somewhere between 12 and 17 per cent of all hernias, which means 25 to 35 per cent of cases accepted for treatment.

4. Conditions under which this treatment has been carried on by quacks and irregulars for over one hundred years will again obtain unless a warning is issued against extravagant and unwarranted claims of cures.

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THE EDUCATIONAL VALUE OF OUR STUDENT HEALTH SERVICES

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The economic difficulties of the past few years have led to an apparent demand on the part of the public for an increased participation by the government in medical services. Whether authentic or not, this demand has caused considerable concern to the medical profession. The practicing physicians of this country are convinced that the public can best be served by maintaining the individual physician as a free agent to deal with his patients unhampered by excessive regulation or regimentation.

It is not the purpose of this paper to debate the desirability or the defects of various schemes that have been suggested, or that may be suggested, for the socialization of medical practice. Rather it is hoped merely to point out a method of approach to the problem that up to the present time has received too little attention from the physicians of the country.

It has been often stated that the students in our colleges and universities today will be our cultural, political and industrial leaders tomorrow. One of the functions of our institutions of higher learning is to train these students in straight thinking, to distinguish between fact and propaganda. If we can present to these future leaders the problems of medical practice as they apply to personal and public health, and can teach them to expect only the best of medical service from practicing physicians of the country, we shall have less to fear from the future citizens of the nation in the form of demands for unworkable and inefficient medical practice schemes.

Student Health Services will be found in practically all of the colleges and universities of the country. The students during the college years will come in contact with this department of their school more or less frequently, and through the activities of the student health service will be taught what good medical attention is, what the medical profession has to offer them in the form of positive health aids, what constitutes intelligent preventive medicine, and what the practicing physician can do for them and their family after graduation. If the thousands of college graduates being turned out each year leave school with this understanding of medicine and the medical profession, certainly a great step has been taken in preventing the development of foolish health schemes.

Perhaps a brief outline of the development of the student health services in our colleges, with particular reference to the work done at Wayne University in Detroit, will help to make clearer the opportunities here outlined.

It has long been an established and accepted fact that colleges and universities should assume some responsibility for the physical life and health of their students. Since the beginning of the first student health service at Amherst in 1860 for the purpose of selecting students physically ca-

pable of engaging in athletics and sports, the scope of the service rendered by student health services to the student and to the school has gradually increased.

The amount of responsibility assumed varies greatly with the size of the college, its location, and underlying philosophy of its health obligation to the student. The older, larger, and privately endowed schools have, for the most part, developed student health services which provide essentially a complete medical and surgical service to the student for the payment of an annual fee.

This broad interpretation of a college's obligation to the student is, of course, a form of health insurance; for, by the payment of an annual fee, the student is usually given complete medical and surgical care, dental service, x-ray and laboratory service, and a varying length of hospitalization if necessary.

The objectives of a student health service in any college may be briefly outlined as follows:

1. Sufficient education and training of the student to enable him to care for his health intelligently, through hygienic and proper habits of living. The hygiene of the student in college today will, in a sense, become the hygiene of the population in which he will be a leader in the future.

The college health problem is not so much concerned with disease as with the fostering and increasing the strength of people not yet mature, so that a foundation may be laid for long, healthy lives.

2. Protection of the student body as a group from the introduction and spread of contagious and communicable diseases.

3. Supervision of the sanitary facilities of the school buildings, domitories, rooming houses, etc., that the student may not be forced to live or work in unhygienic surroundings.

4. Care of acute illnesses which require immediate and emergency attention.

5. Physical examinations of all entering students to determine their fitness to participate in the required courses of physical education and in the more strenuous elective intercollegiate athletics. To do this, adequate records must be kept of all students, and competent interpretation made of the results of the examination.

6. Assistance to the student in selecting or planning his course of study so that it will correlate with his physical and mental abilities. The prevention of overwork on the part of some students is often a necessity. Inasmuch as the student seldom pays by his tuition the actual cost of his education to the school, this phase of the student health service work may be interpreted as a safeguard of the capital investment of the institution. There is no economy in graduating a student who will be shortly compelled to withdraw from the practice of his profession because of illness, due to poor supervision of his health habits while attending college.

Fundamentally, the problems of the student health service in Wayne University are the same as in any school of higher education. The students are of the same age group and are no better nor any less prepared for college life than students of other schools; therefore, aspects of the health education of this group are essentially the same in all schools.

There is, however, less need for the broad administrative development of the health service in the municipal school that is found in the larger, endowed school. Most of the students in a municipal university live at home. If there are dormitories on the campus, they will be few and small, and will house relatively few students. Many of the city colleges have no dormitories; the few students attending the school from out of town find their own accommodations. When the school district is located in a city, these rooming houses will be supervised by the local department of health and should, therefore, constitute no health problem to the university.

The fact that most students in a municipal university live at home makes the handling of their health a different problem than in the ordinary school. Students who have traveled long distances away from home to attend college have a right to expect that facilities will be provided for their care in the event of illness. The university must stand, in a sense, in place of the parents in caring for the student; and this is a generally accepted theory in most universities. Moreover, in the case of large schools located in small towns or cities, local medical facilities are often inadequate to care for the large numbers of students brought to the community by the school. The authorities are, therefore, of necessity forced to provide satisfactory medical service.

When, however, the majority of students live at home or with relatives, this responsibility can and should remain at home. There will, in most cases, be a family physician who has better knowledge of the personal and family history than the student health service physician could hope to have with his brief contacts. There is no logical reason why the family physician should not continue to care for such a student in the same manner he would have had not the student enrolled in the university.

The same thing may be said of hospitalization of a student. The municipal university is not faced with that problem as are other schools because the parents or relatives of the student are at hand and can see that adequate hospital care is given if needed.

The few cases of out-of-town students in the city university who require hospitalization can be cared for in emergency by sending them to the city hospital. The school is, in this way, saved the expense of erecting and maintaining an infirmary for ill students. This will perhaps make the health service less adequate in caring for the students than it might be; but, in general, local facilities will be sufficient to care for the few cases where the school must assume some degree of emergency responsibility.

Wayne University is a municipal university operated by the Board of Education of the City of Detroit. It was formed by the union, in 1934, of five colleges operated by the Board in order to facilitate the administration of the various schools.

The Student Health Service was first organized in 1928 as a part of the College of Arts and Sciences. A physician was employed on a part-time basis with a registered nurse in attendance at all times. Physical examinations were made of entering students, and an office and clinic maintained for emergency care and consultation.

In 1935, a full-time physician and member of the staff of the College of Medicine was made director of the Health Service in order to bring the various medical activities of the Board of Education under the direction of the College of Medicine. The Health Service is now located in its own building at 5041 Cass Avenue, just north of the main building of the University. Thorough physical examinations are made of all entering students and their records are kept up to date during their college careers.

Students are graded in accordance with the results of their physical examinations and permission is given or withheld for participation in athletic activities. All college sports are supervised by the Health Service, and a physician is in attendance at all football games.

Since its inception, the Student Health Service has become of increasing value to the students of the University. Requests for service have increased from an average of a few hundred per year during the first several years to a total of 6,468 in 1936-1937. The reasons for these requests vary from routine rechecks of physical findings to a need for care in sudden acute illness. There is no follow-up system in routine use at the present time, but it is needed, and will be started as soon as possible. All physical defects found during the examinations and needing correction are referred to the parents and the family doctor for appropriate care.

The students of Wayne University are not given medical care within the usual meaning of that term. Emergency care is given, but subsequent treatment, if necessary, is referred to the family physician. Many students consult the Health Service regarding chronic illness or ask advice about treatment of a known defect. Such advice and consultations are freely given, but all treatments and actual care of the student is placed in the hands of the parents or guardian and family doctor.

Athletes competing or trying out for teams representing the University are given medical care in the event of injury to the extent of the facilities of the Health Service. When such facilities are inadequate, the student is referred to the family physician or an appropriate specialist. In circumstances where it is deemed advisable, the physician's fee is paid by the University.

No hospitalization is offered to the students by the Health Service, and no infirmary is maintained. Wayne University's Health Service fee of $1.50 a semester is the lowest in the United States for a university of comparable size maintaining a regular student health service with a full-time physician, and where such a fee is charged. A few beds are kept in readiness in the Health Service Building for emer-

gency illness, but the student is kept there only until arrangements are made for his removal to the home, or hospital, if necessary. These beds are also available to students assigned to regular rest periods during the day by the Health Service because of chronic ill health.

Education of the students in matters of health and hygiene is considered the main objective of the Student Health Service of Wayne University. An attempt is made during each personal interview to give authentic advice regarding personal health problems to the end that the student may better understand what can be done and where such aid may be obtained. During the past year, 2,080 students were referred to their own doctors or dentists for appropriate care; and when the student had no family physician, aid was given in selecting one appropriate to the need from a list approved by the Wayne County Medical Society. We feel that the practicing physicians of Wayne County are our partners in the conduct of the Health Service.

It is felt that the student completes his four years in college with a better understanding of what medical science has to offer, and a knowledge of how to utilize that information for his own benefit. He should, by that time, be on good terms with his family doctor; we feel that every such contact made should be to the benefit of medical science, the physician, and the patient.

Summary

1. Student Health Service departments are present in practically all of the nation's colleges and universities to give various degrees of medical care and authentic advice to students in health matters.

2. Proper education and training of these students in such matters will greatly aid in discouraging the demand by the public for unworkable and inefficient medical practice schemes.

3. The coöperation of the medical profession with the colleges is desirable in attaining this objective. The practicing physicians of Wayne County, Michigan, are in effect partners in the Student Health Service at Wayne University.

4. The municipal university is not under the obligation of providing the same extensive medical care for the student as is the larger, older, privately endowed school, where a majority of students are living away from home.

5. The main objective of the student health service in any university should be the education of the student regarding matters of personal health and hygiene, and the strengthening of the bond between the student and his private physician when medical care is needed

6. The usual municipal university will find the city hospital facilities adequate for the care of ill students, and need not maintain any student infirmary.

7. Physical examinations upon entrance, supervision of athletics, control of contagious diseases, and inspection of the sanitary facilities of the school buildings should be a part of the student health service program in a municipal university as in anv other college or university.

INFLUENCE OF DISEASE ON HISTORY*

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To Dr. Samuel Johnson, history was a narration of events and facts delivered with dignity. But certainly our generation smiles at the dignity and questions the facts as told by the historians of the past. We seek further and ask to know the reason for the facts they so glibly relate. What are the reasons for the passing of the "Glory of Greece" and the "Grandeur of Rome," for the failure of Spanish supremacy and the ascendency of England in Elizabeth's time?

History is voluminous in the details concerning the strife of man against man, or man against the elements, and rarely mentions the all-important account of man's fight against disease. Certainly, if history is a true record of man's adjustment to environment and his gradual conquest or control of nature, along with his mistakes and

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corrections of these mistakes, and in general an account of his pursuit of life, liberty and happiness, his long-time conflict with endemic or epidemic disease particularly should be included.

This shortcoming can likely be traced to the early belief of man. Being ignorant of the nature of disease and its causes, he regarded it as an affliction sent on him by blind fate, or as open acts of an angered God to give him a deserved punishment for his sins. Thus, the early writers felt little need to ask why they fell, and failed to record them faithfully.

Since the causes of disease have become among the things known and understood, the recordings of their incidence has found their place in recent pages of history. But, previous to the scientific awakening of the nineteenth century, one warrior soldier in his armoured suit, or one trifling war with a few thousand men pitted against a few other men at close range, was more important to the writers of history than were the myriads of peaceful farmers, bakers or tradesmen who carried on their peace time occupations, lived as decent folk and carried on for posterity. Even today, the daily press is inclined to rake the five continents for murders, banditry, thefts and sensational adulteries, rather than to fill their pages with daily work-a-day habits of the people whom they serve. Violence and fury is history, but it is not the whole of history and only in the twentieth century has man begun to realize this fact.

Thus disease and the gradual control of disease are tremendous moulders of history. Sir Thomas Browne aptly said that "the world is not an inn, but a hospital." Early writers chronicle the smallest of wars but scarcely mention the great plagues and epidemics which turned the events of history, many times without deference to any man or nation of men.

We may assume that pre-historic man struggled with visible forces, such as wild beasts, ape-men, jungles, floods and famine mainly, but that disease played an important rôle, also, is evidenced by findings in the disease-racked mummies uncovered in Egypt.

That nomadic man contended with disease, too, is proven by looking at our own Western World Indians. When living here today and away tomorrow, they remained strong and burly. But after being touched by the white man and grouping themselves in larger and more permanent places and somewhat broken to community ways, they polluted their waters and the soil they trod upon, and diseases set in which were unknown before. The gradual extinction of the Redskin has been brought about by diseases of civilization, not by the brutality or sword of the white man.

That these primitive races instinctively realized their sense of security was in their isolated existence, there is much evidence in their customs. One Borneo tribe fumigates any stranger coming into their midst by singeing the wanderer with burning bark. Some Javanese anoint the stranger and his boats with green leaves. A Bechuana tribesman gone longer than a week from his tribe must shave his body from crown to toe before returning in order to rid himself of the evil he may have contracted from the strangers with whom he has mingled. Indeed the envoys of the Emperor Justinian had to pass between two purifying fires before delivering their messages to the Turks.

Enough of generalities, so on to more dramatic episodes as promulgated by some of the great epidemics of time. The Talmud and the Bible both refer to the pestilence called down on the people by God himself, in the one instance on the Pharaohs to release the Chosen People from their yoke, and the other, not long after, a plague on the Chosen People themselves for their indulgences, which wiped out more than thirty thousand followers of Moses, even before they reached the "Promised Land." The effect of these epidemics or the diseases which caused them is not clear, and they are merely mentioned as early harbingers of what to expect later.

The first great scourge of which we have definite record is that known as the Black Death of Athens in 430 B. C. Its origin is rather obscure but it was probably introduced from Ethiopia and Egypt. Pericles, the Wise, ruled Athens in all her glory, and had just begun the war with Sparta. Because the first year's skirmishes had been in favor of Sparta, all the countryside inhabitants of Attica had sought refuge inside Athens' wall. This overcrowding without regard for salubrity formed a rich soil indeed. The pestilence first appeared

at Piræus, the seaport of Athens, and struck Athens soon after with a deadly blow indeed. One-half of the twelve hundred rich citizens of Athens died immediately and more than half of the heavy-laden soldier defenders succumbed in the first weeks of the disease. Despair overcame these crowded people and their high moral conduct went to pieces, and the populace indulged in all sorts of licentiousness, murder, rape and rapine. The laws and the Gods had deserted them and the sayings of the oracle were fulfilled:

"Two heavy judgments will at once befall,
A Doric war without, a plague within your wall."

Pericles, the great builder of Athens, became unpopular because he had started the war which the people believed had been the cause of their misery. But he sent out an army against the Spartans, which failed, because the plague destroyed far more than did the enemy. The fleet sent out suffered the same fate and at last Pericles himself succumbed. With his death died the Golden Age of Greece and after about two years more of the Plague, the population of Athens was reduced by one-third. What is probably more important, her genii succumbed without leaving any successors.

For the medical picture of this scourge we must rely on the eye witness Thucydides. He comments on the great thirst of the sufferers and reddish spots on their bodies. Swollen glands with a greenish discharge were referred to, so that we now know undoubtedly this disease which caused the end of the Golden Age was bubonic plague. Athens fell, not because of the qualities of the Spartan soldiers or their courage, but solely because of the ravages of the bubonic plague, which as we shall see has turned the course of history more effectively than all the armed forces which have ever carried the weapons of war on all the seas and lands of the world. From this time on the civilized world has not been free from Bacillus Pestis infection. Following the Athens plague, it persisted in all parts of the world and as was the custom in those days the people prayed to a saint for deliverance from its ravages. Thus were Churches built; notable among them are the Church of San Rocco in Venice and Saint Sebastian in Rome, the latter dedicated to the Saint familiar to us in art as the martyr soldier shot with arrows. The plague coerced the Roman Emperors throughout their several reigns, sometimes aiding their causes, but in general breaking down the master minds of the greatest state this earth has ever known. After Pompeii it was said ten thousand died daily, and while the disease stayed the ravages of Attila from the north in 400 A. D., it made possible the victory in Italy of the Lombards in the seventh century and the final breakdown of the Empire.

These instances were meager, though, when compared to the epidemic of the pneumonic form of bubonic plague known as "The Black Death" which swept the entire known world and decimated its population. This epidemic started in Asia and was said to have killed at least thirteen million Occidentals. Because of this disease, men failed to bank their treacherous rivers, and flood and famine followed into China with fatality of even greater numbers. Gradually working westward, it was rapidly dispersed by soldiers of Genoa, returning from the war in the Crimea, and, aided by the traffic from that free port Genoa, it reached England in 1348. In one year's time so great and so rapid was the fatality that the population of the world was cut in half. Pope Clement the Sixth stated that forty-two million perished. The river Rhone was consecrated in France by the Pope to make it possible to bury the devout, for it was impossible to find ground enough to bury the dead. London alone lost one hundred thousand, but greater tragedy was to visit this capital in 1665, the year of London's great plague.

Such a convulsion of humanity necessarily was more than stupendous in changing the course of history. Let us look at some of the trends which humankind took, with particular attention to England, for in this country we have more accurate knowledge of the conditions than in some of the other nations. Morally it seemed to be contradictory, because while it would be natural to assume a more reverent attitude toward life, on the part of the survivors, exactly the opposite took place. The authority and influence of laws, human and divine, vanished as though they had never existed. Traditions of the ages were disregarded, just as they had been before in Athens, and as they were manifested after the World War upheaval of 1914. Licentiousness and debauchery sprang up as appa-

rent effects of having seen the pious and the wealthy stricken by the plague; this was too much for them to endure. Life became valueless in the minds of the survivors and was considered just as temporary as the night was long. Throughout Europe it completely broke the feudal system, bonds were broken that never should have existed, and it made possible the rise of the common man, giving him a voice in the nation's affairs which he never had before. Art, trade, and industry were paralyzed, particularly agriculture, and served to lure men from the soil by promoting urban growth and actually preparing the way for the coming industrial revolution. It broke the power of the church, and, although historians do not state it, the plague definitely made Luther possible and the Reformation a fact. This took place because the old guards of the Church died in such number it was necessary to replace them with younger men, more poorly equipped in moral abstinences and scholarships, and each with less regard for the authority of the Pope. These lesser vicars soon brought about the flourishing of the Flagellants, made up of a group of faithful ignorant people banded together and dressed meagerly with a red cross on their shirts. Going from town to village they would be welcomed by the ringing of the church bells and received with deep respect. Proceeding to the church and exhorting the people to repent, they would begin their rite of flagellation. This rite consisted in thrashing the victims with a hooked leash and finally saying, "God grants your pardon for your sins —stand up." Thus the terror-stricken and pestilence-ridden populace were fertile soil for the spread of this motley group, especially when they claimed divine origin. As these bands grew in size and all western Europe was overrun with pilgrimages, this was another means of continuing the spread of the plague. As their power grew, they gradually assumed more claims and started healing the sick, demolishing the clergy and taking full charge of the churches, hereby questioning the ancient hierarchy of the church itself. Only because the Wise Pope Clement the Sixth, at Avignon, showed judgment in prohibiting, on pain of excommunication, anyone from taking part in the pilgrimages, did he save the weakening power of the church.

With the population halved and the Serfs freed by death of their manorial lords, the ubiquitous law of supply and demand brought about an increase in wages for their labors, increasing their incomes more than four-fold. In order to attempt to control this the feudal lords passed laws prohibiting the laborers freedom of movement from one parish to another. This brought about a banding together of those workers in one trade, for the first instance of collective bargaining. Thus the forerunner of the clash between Capital and Labor was brought about by no less an episode than a disease, "The Black Death."

Because of these higher wages and the unprofitableness of the large tracts by the manorial lords, these very manors were subleased or sold into smaller divisions. Thus land was distributed to a greater number of men and a more equal division of the world's goods was brought about. As a result, the common man found himself economically better situated. Land was plentiful and therefore rents low, because there were fewer to inhabit the land, and the wages were higher for the same reason. Thus with the misery and desolation came elbow room and a more even distribution of material things. The standard of living was raised and since no property had been destroyed each survivor had the share of two. The pressure of population had been relieved and men had more leisure time to develop the arts, and for the pursuit of happiness. Some writers lay the Birth of the Renaissance at the door of the "Black Death." While the plague influenced history stupendously, it is by no means the only disease that has changed the course of events of history's onward march.

Smallpox has contributed much in the course of world affairs, involving that of the western hemisphere and our own country to a great extent. The origin of smallpox is obscure, but we know certainly that it existed long before man kept a record even of his war conquests. Like the plague, it was probably prevalent in China and the Orient long before it was known in the western world. The first recorded visitation of it as an epidemic is that in Rome in the second century, when it was brought back from a successful repulsion of Assyria by Marcus Aurelius. The description of the epidemic closely follows that of the Athenian plague, in that thousands were buried or burned daily. The Romans resorted to lus-

tration, and, as usual, feasted and prayed to their Gods for deliverance. Because the outlying districts of the Empire were revolting and because armies were sent from the central city to subjugate the rebels, the disease spread rapidly over the entire Empire, from Persia on the east to the Rhine on the west. For fifteen years it went unabated and raged unmercifully. Eventually, the greatest of Roman Emperors, Marcus Aurelius, succumbed, just as did Pericles. The disease from this time on was, at least, endemic and many writers date the undermining of the Roman Empire from the persistent ravages of this one disease. The decline assuredly set in with the death of Marcus Aurelius, the wise Emperor. During the next twelve centuries, the disease was present in more or less epidemic proportions as we would consider it today. In England, as late as 1776, a want ad in a London paper lists the following: "Wanted —A man of twenty or thirty years old for footman and butler—he must be of Anglican faith and have had smallpox"; showing that it was the fear of society to have the disease break out in their servants' quarters because it spread so rapidly. During the Elizabethan period it is said one out of ten succumbed to the disease and one out of five of the survivors had scars caused by the pox. The disease reached all corners of the earth eventually, first appearing in Japan in 900 A. D., Siberia in 1600, Australia not until 1838, and the first case in Hawaii was in 1853.

The western hemisphere became infected epidemically fifteen years after Columbus' memorable exploration voyage, and because of its ravages the white man was enabled to successfully colonize the Americans and overcome the Indians. Whole tribes on the islands of the West Indies were demolished by the epidemic and on being carried to Mexico over three million natives were killed. This alone explains why the few Spanish conquistadores were able to control the destinies of the southern third of North America for so long a time.

The Spaniards were not the only ones aided by this pestilence, for as early as 1649 in Boston, our Puritan forebears, even though they feared the pox themselves, saw in it a direct intervention of the Lord in their behalf as they realized the disease destroyed far more Indians than colonists. The Reverend Amos Adams definitely admitted that the smallpox was a blessing of the Lord, in that the savages would have been too strong to conquer had not smallpox killed so many of them. Thus we must concede that the very foundation of our country was in no small way attributed to the existence of smallpox in an epidemic form. Had the great Edward Jenner preceded the colonization of America, and received the support of the great Lady Mary Montague, Louis the Sixteenth and the English Royal family, who can tell what changes would have taken place in the development of the New World?

Another disease disseminated in the early days of history and now seldom seen among civilized people, but which definitely altered history, is that of leprosy. Its origin is more ancient than that of smallpox or the plague. Our earliest references to it were made in the Papyrus Ebers dating back as far as 1200 B. C. Apparently it came to light in Egypt, being carried by the Israelites from Palestine, from whence the wandering Jew carried it to the entire world, assisted, of course, by the conquering Roman soldiers. Then, with break-up of this greatest of empires, the boundaries of the disease became limitless. Because of its prevalence in the middle ages, segregation houses of Lazarus were established in all sections of the world by the church. The origin of the watering spa is directly traceable to the disease, our legends tell us. Britain's king Bladud in 900 B. C. was cured by bathing in a muddy pool following the example of diseased swine. Returning to his court cured, he set about to erect a shrine on the site of this miraculous mud hole. This was the founding of Bath, England, which today is still England's greatest health resort. Leprosy reached its peak incidence in Europe during the years when the Roman Church was supreme and with the outbreak of the Reformation it relatively disappeared. In western Europe, during the thirteenth century, there were over nineteen thousand Lazar houses. Just why this is a fact may never be explained, but it did bring forth the theory of it being caused by the eating of fish as expounded by Jonathan Hutchinson, the most versatile of English physicians. The fact that during its height leprosy was unknown in Greek Orthodox Russia and that it prevailed particularly in Norway and Sweden, whose people lived from the sea, and was most persistent

along the sea coast among sea-abiding men, made his ingenious theory at least reasonable.

Because leprosy, like typhus and the plague, was a disease of the poor and associated with filth, it did not strike down bishops, kings, nobles and warriors. Since it was less contagious than the plague, its influence on history has not been so resounding. An occasional exception, of course, is notable when we recall that Robert Bruce, the Liberator of Scotland, was a leper and died of the disease. Had he lived longer maybe there never would have been a United Kingdom.

While it did not slay armies or destroy whole communities, it has insidiously brought tragedy and despair into millions of lives, slowly destroying them and never sparing any of its victims.

The influence of Father Damien, the ministering saint or priest, to the afflicted and his work among them even in Honolulu and Molokai, established the efficacy of quarantine. Recently, the cure of this disease with Chaulmoogra oils is all too well known to relate. It goes more with the conquest of disease than with a tale on how it has influenced history. The story of its discovery, though, is most interesting. Legend relates that a powerful potentate in India was afflicted with leprosy and voluntarily banished himself to the jungle, living as best he could on the herbs and leaves the jungle offered. Among these were the dead leaves of the kakaw tree. After a few months of this voluntary exile, he discovered himself to be cured and he then returned to his throne and married his princess. Through his influence, then, the natives of India discovered this curative effect of the kakaw seeds and the oil pressed from them. This now is recognized to be practically a specific for the bacillus of Hansen.

More dramatic than leprosy, by far, is that role played by malaria and which still seems to be one of the major diseases yet to be controlled, in order to bridle its ill effects on human kind and lessen its historical significance. The fall of Greece, of Rome and the failure of all tropical races can be definitely laid at the door of malaria. Circle the earth at the equator with an area six thousand miles wide and you include half the land and its most fertile land too, as well as half the people of the earth. In this region were the founders of civilization and the beginnings of intellectual attainment. But these people in this region have lost their dominance for one reason and one reason only—namely, malaria. Even today it is said one-third of all tropical dwellers suffer from malaria.

While the Golden Age of Athens, as we have seen, ended with the plague which after destroying passed on, malaria spread and continued the deterioration of Greece. It was introduced to the flowering peninsula from Egypt about 500 B. C. and has remained an inhabitant ever since. The marvel is, that modern Greece still exists as a nation after two thousand years of chills and fevers and enlarged spleens. That Greece fared better than Rome is evident, in that Rome, as a nation, ceased. From Greece, the chills and fever were spread to Roman territory about 300 B. C. Because Rome, the city, was so splendidly located on seven hills and the marshes between the hills were effectively drained through the Cloaca Maxima, the Empire City remained free from malaria. The marshes in the nearby territory, however, were not drained and these agricola suffered the disease regularly, daily, tertiarly or quarternly. By instinct they deserted their farms and migrated to the healthy city to escape the fever. This influx brought about congestion, idleness, corruption and vice. Plunder and dispossessing of the rich became the by-word of the Roman populace and surely laid the foundations for the downfall of the Empire. The fevers drained the initiative of the Romans, and fostered idleness with its evils. The Pontine district was changed in two generations from a prosperous district, well populated with warriors, into a wasted marshland, by malaria. A monument still in existence is the deserted ruins of Ninfa, which lies "fairy-like with its covered walls, church spires, convents and dwellings half-sunken in marsh and humming with sounds of beetles, mosquitoes and crickets." When Rome fell, their fine sewers and aqueducts were destroyed by the Goths and it then became malarious. From thence it spread to all Europe.

In the new world, too, malaria played its part. Spain conquered Peru, Brazil, Ecuador, Mexico and our own southern states easily and with but a few thousand warriors, but she failed to hold them under her yoke simply because they did not sur-

vive the old enemy, malaria. With this conquest came, however, the hope of one-third the world's people and their deliverance from fevers. So dramatic is its discovery I quote from Major on the circumstances under which it happened. "One day when a company of Spanish soldiers were marching through a Peruvian forest one soldier was seized with chills and fever. He became so exhausted he could not keep up with the company. He was therefore abandoned on the roadside to die. As his fever rose, a raging thirst overcame him. Crawling slowly through the brush he came upon a pool filled with stumps and logs and partook of the water. It was intensely bitter, but being wet he drank and continued to drink. After slaking his thirst he fell asleep, but lo, on awakening the next morning he was well! Recovering, he hastened in pursuit of his company and caught up with them, much to their astonishment. They, thinking a miracle had taken place, returned to the pool and likewise partook of the healing waters." This was the discovery of quinine because it was eventually determined that the bitterness of the water was due to the bark of the logs immersed in the brackish waters, and it soon spread among the Spanish conquistadores that the bark of this Peruvian tree cured the chills and fever. In 1638 the wife of the Count of Chinchona, viceroy of Peru, took the powdered bark and was cured of the malady. Being truly grateful she determined that it should be distributed to as many sufferers as possible and on returning to Spain continued to distribute the miraculous powdered bark from her estate at Chinchon, Spain. Although the true discoverer remains an unknown soldier, posterity still remembers this Duchess of Chinchona because scientifically quinine is known the world over as Chinchona bark. Major further states that, beautiful as the legend may be, it is not in all respects strictly true, but records reveal that the Duchess of Chinchona who was cured was not so altruistic. She did return to Spain with her physician in 1641 well supplied with Peruvian bark, which was sold from her estate at large profits. The Jesuit fathers did, however, distribute it widely and at cost. They secured a papal blessing and sanction, since which time it has been widely used, although at first it was outlawed in the most Protestant countries because of the very fact that it had been introduced by the Jesuits and even known as the Jesuits' bark.

Closely connected with the ravages of malaria, probably because it is an insect-born disease as well as being a tropical disease, is yellow fever.

The influence on history has been no less marked through one than the other. Both have ruined complete civilizations and caused the abandonment of whole countries. The yellow jack, or "black vomit" as the disease was popularly known, was the one thing which destroyed that ancient civilization of the Mayas in Mexico. Their records preserved for us today give accounts of the frequent visits of this pestilence among them and definitely was the cause of them abandoning their cities and scattering over the country. This weakened their stand against the Aztecs of the highlands and permitted the latter to be victorious. A definite epidemic in the year 1454 practically annihilated them. The Aztecs, living as they did on highland plateaus, were keen enough to observe that they remained free from this terrible "black vomit" at home and contracted it only when carrying on war against their Mayan enemies when in the lowlands and near the sea coast.

Again the failure of Spanish supremacy in the new world can be attributed to a disease. All of the Spanish soldiers poured by the persistent Charles into Haiti and Cuba to establish a Spanish throne in the new world was futile, because immediately after landing they would succumb to yellow fever, malaria, et cetera. Indeed the history of the natives of the western hemisphere is almost identical with that of Europe in the plague days. "Black vomit" became dreaded as much by the new world explorers as had "black death" been abhorred by their ancestors. Haitian history is a definite entity to serve as an example of yellow fever's devastation. From 1500, when it was the principal Spanish settlement in the new world, to 1514, the numbers of whites in Haiti diminished from sixty thousand to less than fourteen thousand.

The next steps were the introduction of the African negroes and the beginning of the slave traffic. Since these negroes apparently had some immunity to this dread disease, "black vomit," they soon outnum-

bered the Indians and whites and became supreme in a revolt, led by Toussaint L'Ouverture, whose story has been made familiar in Eugene O'Neill's great play "Emperor Jones." LeClerc, sent by Napoleon to conquer this nation of blacks, landed with a force of twenty-five thousand trained Frenchmen, failed utterly, not due to lack of valor on the French soldiers' part, or courage on the part of the negro defenders, but because of the negro ally, yellow fever. LeClerc returned just three months later with a mere three thousand of his original army. Because of the slave and rum traffic between the West Indies and our early colonies, yellow fever was always a menace in the cities of New York, Philadelphia and Charleston, where it occurred in epidemic proportions on several occasions, notably in 1793. In Philadelphia that year such ridiculous methods as firing of guns and burning of bonfires in the city streets were resorted to, in order to purify the air of the disease. Thomas Jefferson and Doctor Benjamin Rush were among the first to state that it was a contagious disease, localized in a circumscribed atmosphere and always along the sea coast, marshlands or navigable rivers. From these early and intelligent observations Carlos Finlay started his all-important work on mosquitos, and of course pointed the way for the work of the yellow fever commission headed by Doctor Walter Reed and James Carroll. The finding of the means of transmission of yellow jack is too well known to relate again.

Frenchman Lesseps failed to dig the Panama Canal not because he was a poorer engineer than Gorgas but because yellow fever was the killer of his men. The French lost two hundred and fifty out of every thousand men while Gorgas' death rate was only eight per thousand. Thus the first inter-oceanic highway and the awakening of the Pacifically minded world, from one formerly only Atlantically minded, was realized because yellow fever was under control. Gorgas himself prophesied that, "with malaria and yellow fever eliminated, life in the tropics for the Anglo-Saxons would be more desirable than in the hardier temperate zone. Gradually within the next two or three centuries the tropical countries, because they offer a greater return for man's labors, will be settled by white races and again the centers of wealth, civilization, and population will be in the tropics as they were in the beginning of human history." Certain developments show the birth of this prophecy already; for example, Florida—Rome with Mussolini's swamp control about the Tiber—and, of course, the example of the Canal Zone being a health resort equal to that of New York City from its lowly epitome of "the graveyard of America."

Besides these diseases which deterred the colonization of the new world there was the sailor's disease or scurvy which undoubtedly held back the settlement of the new-found lands. The toll of the seas was not their storms and hurricanes, but disease; true enough, sanitation played its rôle, but scurvy was the real dread. It has been said, during the time previous to the age of steam, that a ship two weeks out was a hospital, one four weeks out, a morgue. Surely this must have discouraged all but the hardiest to undertake a sea voyage to distant lands where unknown dangers lay ahead. Sir Walter Raleigh's colonization voyage to Virginia in 1560 was decimated by scurvy and explains the failure of that gallant's dream. The dreaded Spanish Armada was under the spell of scurvy and thereby fell victim to the English Elizabeth's navigators. The great navigators of the same queen, Sir Francis Drake and Hawkins, aided often in their glorification of their Queen's navy, in the end succumbed to the disease of the sailors.

Cartier's band of settlers in Quebec were sick with scurvy and twenty-five died the first winter. So it was with all travelers in those days, until Captain Cook sailing around the world in 1770 solved the mystery by preventing scurvy with the citrus fruits carried along. With this voyage as evidence, English naval ships were commanded to supply limes and lemons to the navy and by this one act she remained the mistress of the seas. With the banishment of this disease there was released an immense new force and freedom of fear of travel which promulgated a great activity in the transport of people. Man's horizons were broadened and the spirit of exploration and adventure in a new country reached a peak never before or since realized. Unquestionably this was a tremendous influence on the history of the entire race.

Syphilis, too, has had its part in the mak-

ing of history and to a considerable extent remains rampant even today, though its cause and specific cure are well established. Let me briefly relate its early spread and some of its most outstanding effects on the welfare of our race. Doctor Miller's recent splendid paper delved into the history of the disease and its origin. From him, and I believe all historical writings agree, we learn that its first appearance, at least in epidemic form, was in 1494 in Naples, Italy. Here it occurred among the conquering soldiers, Germans, Poles, Hungarians, Portuguese, Frenchmen and Spaniards, led by Charles the Eighth of France, as his first step in a war to attempt the reestablishment of the empire of the east. Because the King of Naples offered no resistance and intrigue prevailed in the Neapolitan capital, these conquering hordes were welcomed and feted by the citizens in a grand manner. They were wined and dined and the maidens were attractive and willing and the army of the fifteenth century, no different than any other army, settled down for a winter of enjoyment and pleasure. After a few months the pleasure-bent army was ousted from its position by a coalition of the Pope, the de' Medici and the King of Spain. Along with this retreat, they carried the "Neapolitan Disease" back to their various homelands. Twenty years after, syphilis appeared in all classes of people, bishops, popes, kings, nobles, as well as the sailors, soldiers and strumpets, having been disseminated through the "Noble" houses of prostitution in the most ancient of manners. First, it was the existing circumstances and customs of the fifteenth century that contributed even more to its spread. The public baths of the pagan Romans, after first being crushed by the Christians, had again been revived and were flourishing better than ever before by the beginning of the sixteenth century. Every village and city had its public bath. Houses of prostitution were luxurious organizations under protection of the state and church. Aggrippa wrote, "Pope Sextus built a palace of prostitution in Rome, each woman paying sixpence weekly, which amount yearly to twenty thousand ducats." This same Pope built the Sistine Chapel and founded the Sistine Choir, likely financed from these same ducats.

Cellini wrote often in his autobiography of his own experiences and relates that it is "partial to priests, and especially to the richest of these." It is because of its infecting the powerful men of its time that its influence on history has been so stupendous. Francis the First, of France, was known to have had it and showed characteristic mental changes. His autocratic acts and massacre of his Protestant subjects, the Huguenots, in southern France and their chastisement and migration, are substantial evidence of his disease.

Again, the very religion of England is traceable to the infection of syphilis in the august body of Henry the Eighth. He, being sought as an ally by Francis the First, was invited to visit the French court, which he did. Francis supplied the visitor with a court of gold and feted the English monarch for three full weeks. Having enjoyed all pleasures of the court of France, Henry returned to England only to ally himself with Charles the Fifth of Spain, rather than Francis, but the visit had consequences even greater than this alliance failure. Doctor MacLauren explains, further, that Henry's first wife, Catherine of Aragon, daughter of Isabella and Ferdinand of Spain, who brought into the world five still-born children, and one daughter, who survived to become "Bloody Queen Mary," from her face as revealed by her portrait, suggests the stigmata of hereditary lues. Because of this failure to produce a male heir, Henry, as is known, divorced Catherine and his next choice was Anne Boleyn. Because the Pope feared to arouse the ire of Catherine's nephew, Charles the Fifth of Spain, he refused annulment of Henry and Catherine's marriage and the establishment of the Church of England resulted.

Thus had Henry the Eighth not contracted the disease, who could foretell what course the world's history might have taken? Catherine's sons would likely have lived, the King would have had an abundance of heirs, the divorce and break with the Roman Church might never have occurred. Ireland's history would have been more peaceful and even events in the American colonies might have taken an entirely different course. Certainly the destiny of nations was altered by Henry the Eighth's disease.

Likewise artists, poets and philosophers were affected and the mention of names has but little meaning, but their works stand for a great deal. Ulrich Von Hutten, the

precursor of German unity, who produced a unity of mind for the Germanic people and prepared the way for Luther's Reformation, describes the lesions of syphilis unquestionably in his writings. His book "DeMorbus Gallico" to this day remains a classic in medical literature and gained a world-wide audience for him because of the wide prevalence of the "French disease" among men.

Having skimmed briefly, by taking seven league boot strides, through the ages, I have endeavored to point out some of the most astounding changes which have occurred in history directly due to epidemics of one disease or another. On the other hand, there is a much wider field to be considered in the influence of disease on history by merely mentioning a few instances of the untimely or timely death of some notable personages. The conjectures possible in these instances would stress even the most stupendous imaginations.

For instance, who can say, or imagine, what turn the French Revolution would have taken had Mirabeau been spared and not died at an early age of gout? Would the American War of the Rebellion have taken place had Chatham's mind not been darkened by the same disease when giving council to George the Third?

What a different world this might have been had Hannibal not had to deal with the marshes and fevers of the Roman Campagna on the Appian way. What might have happened had Alexander the Great not died at thirty-three years, due to a fever contracted in the marshes of Babylon? Had Attila not been stricken with hemorrhages on his wedding night when his victorious armies stood before Rome? Certainly if Emperor Maximilian had not been stricken with dysentery and died, permitting a far more religious and powerful Prince Charles the Fifth of Spain to ascend the throne, the Protestant Reformation would have gone beyond the Alps and Pyrenees and absorbed even Rome itself.

Would Napoleon's success have been so remarkable and outstanding had not every other country in Europe at that time been under the rule of either an insane or feeble-minded personage? His greatness I do not decry, but his success was due to disease just as was his downfall. Typhus destroyed his army on the invasion of Russia and his indecision, along with Jospehine's barrenness, was responsible for Waterloo.

Bonaparte's successor failed in re-establishing the Empire and saved the Republic because of a bit of gravel in the ureter. Zola ironically comments "that on a few drops of sand rests an empire's fate." The Crimean war came to an early end because of the ravages of disease and Turkey's continuance in European affairs was prolonged.

More recently would the World War have been prevented had the present Kaiser's father been spared the ravages of cancer. Certainly had he lived, Germany would have been granted a constitutional monarchy similar to that of his English cousins, and no rape of Belgium would have taken place. England would not have had the pretended excuse to join with France and the whole catastrophe might have been avoided. In the cursory sketch which only grazes a fertile field, I have tried to show the transcendent influence disease has played on history. That historians have shown little appreciation of these history-forming forces is a fact borne out by reading accounts from many sources. The reason for this is easily explained. Only in the last two generations have definite causes of many diseases been raised above a field of superstition and theoretical conjecture. As long as disease was considered an affliction of the gods controlled by fate there was little need to question their causes and effects on the woof and warp of history, because there was nothing to be done about them.

As these causes and control of disease become more apparent and better understood, and when the effect of the conquest of disease becomes more ascertainable, a new importance and intensely interesting aspect of history is available for study. That disease has been prominent in world trade, world economics and world politics, is unquestioned. I have mentioned that it has changed nations, destroyed empires, and if disease is conquered with scientific knowledge dramatically or insidiously, the consequences to countries and races is scarcely prophesiable.

Already there has been such control of disease and improvement of healing or preventing disease that the average life span has increased ten years and more. Populations are increasing and apparently the ne-

cessity of employment is decreasing, so it may be that there are too many people already. Will the tropics again overrule those in the temperate zones? If any of these things happen soon or in the distant future, it will be added evidence of the tremendous influence of disease and the conquest of disease upon the history of the race.

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QUARTAN MALARIA

Case Report

E. O. JODAR, M.D.
DETROIT, MICHIGAN

M. D. F., a four-year-old girl, living on the east side of Detroit, gave a story of having regular spells of chills and fever at three-day intervals. These began after a moderately severe but uncomplicated case of measles one month previously and increased in severity so that the child would come in from play on the afternoon of such spells, complain of headache, lie down, become very hot, and then shake sufficiently hard to rattle her crib bed. Her temperature had not been taken. Within three hours the child would feel quite well and would act normal until the next attack occurred. The usual questions relative to her past history revealed that she was born at home, instruments having been used, that she weighed 8½ pounds, and that she was normal in all respects. In infancy she had always vomited easily. The only other serious illness was a purulent cervical adenitis when two years of age.

This child was brought to the office during the interval between attacks and at that time physical examination showed a well nourished girl of four years. Her weight at 36 pounds was 2 pounds above the average for her height and age. The liver could be palpated about the width of one finger below the costal margin and the spleen was at the level of the umbilicus at the lowest point. All other findings were normal. At this time her blood showed 13.5 gm. hemoglobin, 4,000,000 red cells, 6,400 white cells with 8 per cent polymorphonuclear and 92 per cent lymphocytic leukocytes. The urine was normal. An intradermal tuberculin test proved negative in five days. When she returned during an attack smears were made which showed considerable numbers of malaria parasites. The diagnosis of quartan malaria was made.

Subsequent questioning as to the possible source of the infection revealed that the child had never been farther south than Toledo, Ohio, and that no person with whom she had ever come in contact had had any similar symptoms according to the knowledge of the mother and the maternal grandmother. The parents were separated and the father had custody of the child one day each week. From him it was learned that when the patient was three days old she was given an intramuscular injection of blood taken from him because of some blood in the stools. The father was a native of Sicily and during childhood had had malaria but had not had symptoms nor treatment since the age of 18 years.

Since the quartan type of malaria is rare in this country and since this type is well known to be difficult to completely eradicate, it is quite likely that the infection was transmitted from the father to the child through the intramuscular injection of blood, even though no symptoms arose until four years later. It is possible that transmission could also have occurred through the medium of the Anopheles mosquito, but the former method seems the more probable.

The child responded quickly to quinine so that there were no symptoms after two weeks of treatment. When last seen after ten weeks the spleen was barely palpable but not tender, and the child had gained one and one-half pounds in weight.

The story of this case is put on record to call attention to the fact that prospective donors of blood, even for intramuscular injections, should be carefully questioned as to the possibility of latent malarial infection.

OFFICE SECRETARY'S PSYCHOLOGY WITH PATIENTS AND VISITORS*

HENRY C. BLACK

BATTLE CREEK, MICHIGAN

It will be impossible to do more, in this short time, than to touch briefly on some of the more important points of this subject, and if possible bring out some questions for the round table discussion which follows. There is much to be said on this particular phase of psychology, and yet whether it be in the doctor's office or in any other similar situation, the fundamental principles involved are the same.

The first impression a patient receives is most important, and much can be done by the receptionist or secretary to make the impression a favorable one. Patients coming into the office are ill and uncomfortable and should be greeted by someone immediately, told whether the doctor is in, and how long it will be necessary to wait. They should be made to feel at home, put at ease, and their time conserved as much as possible. The ability on the part of the receptionist to anticipate and answer their questions in a business-like, yet sympathetic manner, lends an air of competency and reassurance which has far-reaching results.

Often visitors to the office need not necessarily see the doctor at all, if payments are to be made on their account, or appointments are desired, in which case there should be no waiting. It is the duty of the receptionist to determine diplomatically the reason for the visit and dispose of the purely business calls with dispatch. Due to the comparatively short time the doctor is able to spend in the office, that time as well as the time of his patients should be conserved.

Some of the doctor's success in getting and holding his patients depends upon the manner in which the telephone is answered. There have been cases where a patient calling for the doctor is merely told, "The Doctor is not in," whereupon he hangs up and may or may not ever call again. How much better to have said, "Dr. Blank is out right now but I think I can reach him. Is it anything urgent?" A continuation of the conversation very likely would arrange for an appointment, or at least a satisfied feeling on the part of the patient, even though it was necessary to wait some time for the doctor.

The basic principle underlying the success of the private practitioner is that personal and confidential relationship between doctor and patient, and the competent secretary may be of great assistance in that relationship. Patients like to feel that they hold the doctor's special interest, that they are not just average cases like Mr. Jones or Mrs. Smith, but particular patients deserving of particular attention. The secretary or receptionist may often help to satisfy this desire, and it is a simple matter to make them feel that everything is being done to make them feel at home, take care of them promptly, and see that they get the special service they feel they deserve.

It is often difficult to pick out from the many callers those who must see the doctor professionally, those salesmen and detail men whom the doctor frequently needs to see, and those who will only take up the doctor's time unnecessarily. Regardless of the reason for the call, all visitors should be treated courteously, whether patients or not, and if arrangements cannot be made to see the doctor, at least they should be told so courteously and sent away happy.

Then there is the situation which very often arises when an emergency makes it necessary for the doctor to leave during office hours. In this case the patients in the waiting room should be informed of the situation with a proper explanation, and not left ignorant of the fact that possibly an hour or two hours will elapse before they can be seen. Their time is just as valuable to them as the doctor's is to him, and if properly advised they may possibly utilize the time to good advantage elsewhere and come back at a more appropriate time. At least they will be much less apt to feel that they were unfairly treated.

When patients call in for appointments and are prompt in keeping them, they highly resent having to wait because others who possibly arrived earlier but without appointment are taken in ahead of them. It is one of the duties of the doctor's assistant to make workable appointments, and then to allow nothing but the extreme exception to prevent these appointments from being kept. There is no place for favoritism in the order of taking care of patients without appointments, and the rule must be, in such cases, strictly "First come, first served."

I have seen offices were certain select friends had access to the office through a back door, supposedly without the knowledge of other patients waiting their turn in the waiting room. This frequently breaks up the continuity as well as the efficiency of the office and should in most cases be discouraged.

An example of the benefits of correct psychological approach to common everyday situations may be demonstrated in the conversation incident to accepting payments on accounts. All of you have had patients stop at your desk, throw down a dollar bill and say, "I'll be in again in a couple of weeks," a remark intended as just a casual comment indicating further payment if and when convenient. The really clever office assistant will turn this statement into a definite promise to pay in some such manner as this, and without ever asking for it. She will say, "All right, Mr. Smith, I'll note that on your account. Let's see, that will be the 4th of October. (Noting it down.) Thank you very much indeed, and we'll look for you then." The result is that the patient has been courteously impressed with *his own* arrangement in so definite a manner that a letter can be sent him a few days later if the promise is unfulfilled.

Speaking of letters, the psychological importance of correspondence to patients cannot be overlooked, and although the question of collection procedures is to be discussed by another speaker later on in this symposium, let it be said here that the way letters are written to patients who are slow in paying their accounts can affect not only the cash receipts from the letters themselves, but the good will and the success of the practice. Again, the personal relationship of the doctor and patient is the basis on which the successful correspondence depends.

*Read before the Annual Meeting of Michigan State Medical Society, Detroit, September 19, 1938.

EDITOR'S NOTE: This paper contains excellent suggestions. Have your office assistant read it.

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"Every man owes some of his time to the upbuilding of the profession to which he belongs."

—THEODORE ROOSEVELT.

EDITORIAL

THE LESSON

THE medical profession all over the United States probably took a greater interest in the outcome of the election in November than at any previous time and this does not mean of necessity political partisanship. The impression is abroad that there is a nationwide attempt to socialize medicine with as much speed as opposition and finances would permit, and there was a feeling that Michigan would be in the vanguard in this matter. If the general election meant anything at all, it meant among other things, of course, that the United States is opposed to carrying socialistic plans too far; and despite all that has been said about the passing of individualism, that there is still a strong feeling to the effect that individual effort and initiative should be fostered and encouraged.

A declaration of principles was made by the rival parties in this state. The Republicans incorporated into their platform a paragraph relative to medical care. We feel that this declaration is sufficiently broad, and at the same time sufficiently definite, that the medical profession of the state can feel confident that no legislation unapproved by and unacceptable to the medical profession and allied professions will be enacted. The profession strongly approves all procedures to provide essential medical care to all groups, but these procedures must be in conformity with approved standards. The pre-election declaration of the Republican party of the state, reiterated in substance since the election, runs as follows:

"We believe that it is the duty of the Government of Michigan in so far as it is possible to favor private employment of the citizens so that they can pay for their own medical care. Whether citizens are able to purchase medical care independently or whether, as in case of those on other types of Government relief, it has to be furnished at State expense, we hold to the principle that every citizen has the right to good medical care and that he has the right to select his physician.

"We believe that the problems of medical care are best understood by the Medical and Allied Health Professions and that the plans for the carrying out of such care should be directed by these professions.

"We believe further that it is the duty of the Government of Michigan to assist and not to direct these professions in bringing to the people, particularly those dependent on the Government for other types of relief, such as food, clothing, shelter and fuel, the best possible medical care consistent with sound financial policy."

There was probably never a time in the history of the state when retrenchment has been so necessary. We have arrived at the stage when necessary public services are cramped for lack of funds. Socialization would simply add to the load.

It is well known also that the federal government has been asked to appropriate huge sums for medical service throughout the nation. What the federal government will do, no one can anticipate at the present time. From a statistical study of the past year, the health of the people of the United States has been better and the morbidity and mortality ratio has been lower than ever before, therefore the appropriation of huge sums for a health program cannot be viewed as an emergency expenditure.

POSTGRADUATE MEDICAL EDUCATION

THE advisory committee on postgraduate medical education have drafted a plan on a unit system of credits permitting 15 units in any one year. In fact, this is the minimum requirement for a certificate for associate fellowship in postgraduate medical education. The plan has been approved by the Executive Committee of the Council of the Michigan State Medical Society and authorized by vote of the House of Delegates.

Physicians are encouraged to attend the various medical society meetings to which the following values have been attached. (1) Attendance at County Society meetings (60 to 75%)—2 units; (2) Annual meeting of State Medical Society—1 unit; (3) American Medical Association—1 unit; (4) At Postgraduate Conferences—1 unit; (5) Attendance at a recognized national meeting—1 unit; (6) Attendance on 75% or more of the Extramural Program—15 units; (7) Attendance on yearly composite course—15 units; (8) Attendance on intensive special courses in Michigan Program—each 5 units; (9) Attendance on formal special courses in recognized specialty to which the attendant limits himself—15 units; (10) Membership in and attendance on approved educational societies and activities—1 to 5 units; (11) Membership and regular attendance on accredited hospital staff conferences—2 to 10 units; and (12) Awarding of Fellowship in Postgraduate Education to members of the Michigan State Medical Society on the basis of research and activities on the Michigan postgraduate program; the first of such awards to be made in 1939.

There is a great deal to be said in favor of evaluating postgraduate work in terms of units. Where the student does not submit to an examination, it is a practical method of checking up on the progress he has made since his graduation from medical college. Attendance upon medical meetings is in reality of greater importance than attendance upon classes in the undergraduate medical school. It means more to a practicing physician than the same presentation would mean to the undergraduate who has not yet found himself.

The requirements for certification are not made too easy—four years of attendance on various medical meetings; nor, on the other hand, are they so exacting that the busy practitioner cannot avail himself of the opportunity for attendance.

WE STILL HAVE FRIENDS

OF RECENT years in spite of the scientific advancement of medicine and the fact that the general health of the people of the United States was never better, the medical profession has been the target of much adverse criticism. There has been a great amount of shallow thinking or perhaps better, emotional thinking, if the two words may be employed together. A lot of it has appeared in high grade magazines from editors of which one would expect finer editorial discrimination than has been exercised in the acceptance of such articles.

However, among those publications which have seen fit to publish papers which set forth the true spirit of scientific medicine is *Life,* one of the most influential publications of the kind in the United States. The October 24 number of *Life Magazine* contained a very interesting, eight-page study of animal research in medicine and surgery with statements from a number of the leading minds in American medicine. It goes without saying that such articles wield a great influence in promoting public welfare in matters of health in the dissemination of true information of the evolution of scientific medicine.

HASN'T MEDICINE A PART IN IT?

UNDER the heading "Disgustingly Healthy," the *New England Journal of Medicine* mentions the fact that 1937, the eighth year of the depression, according to the Bureau of Census, found the death rate of infants the lowest in the history of the United States, namely, 54.4 deaths for every 1,000 live births. A newborn baby has a third better chance to reaching its first birthday than in the normal year 1925. Quoted in the November number of THE JOURNAL of the Michigan State Medical Society is a statement by Dr. Haven Emer-

son to the effect that not only infant survival but the general health of the nation has been better during the first half of 1938 than at any time in the past. The *New England Journal of Medicine,* taking the *New York Times* to task, maintains that all this cannot be ascribed to the credit of the capitalist state.

"Neither can it be said, despite the *Times'* implication, that because improved health has come under capitalism it has come because of it. 'In length of life and in health the masses prospered under the so-called *laissez faire,'* is a statement that smacks of smugness. The fact that the road has been slowly upward under our own system of capitalism does not put a complete stamp of approval on its conduct of the nation's business."

Perhaps not. Can it not be taken, however, as evidence that organized medicine has not been recreant to its trust?

PARTLY TRUE: LARGELY FALSE

"BOTH the rich and the poor get good medical care. The poor may obtain it free and the rich can pay for it. It is the great middle class who are embarrassed in the instance of confining illness." How often do we hear this? It has been repeated *ad nauseam* by uncritical people with whom acceptance of a slogan is much easier than first-hand examination to ascertain the truth or falsehood of it.

The fact is the indigent as a rule get adequate treatment; as regards the best it is too much to expect. For instance, when medicines are prescribed they get the simpler drugs rather than the refined and expensive products of the pharmaceutical manufacturer. The rich may, but do not always, get the best and in some instances do not get as good medical care as the indigent, for often they call on the substandard care of the cult or the faith healer which is anything but scientific.

The great middle class by and large who pay for their medical care get the best. Health is too important a matter with the majority of them to waste their time and means on substandard cult healers.

Medical tradition has long been such that physicians place service before the emolument, consequently the wind of the doctor's fee is usually tempered to the shorn lamb, either by a substantial reduction or a lengthened period for payment.

COMMERCIAL RESEARCH

THE writer attended a meeting recently at which the speaker, a man of scientific attainments with a national reputation in his specialty, praised very highly the work and willing coöperation of an industrial firm, manufacturers of apparatus for the use of members of the medical profession. The firm, he said, had spared no effort nor expense to produce the particular apparatus to meet the purpose required. This calls to mind the fact that the first x-ray apparatus was more or less improvised and crude. Thanks to the efforts of manufacturers who financed research along various lines such as physics, engineering, electricity, photography and chemistry and even biology, we have the powerful and efficient equipment that may be seen today in the office of any roentgenologist or in any hospital. Evolution of apparatus, with refinement in control and measurement, has in time made possible greater skill and advancement in the science of radiology. The same may be said of the electrocardiograph. How often does it happen? Ideas and illustrative drawings and specifications emanate from the physician or surgeon only to have the manufacturer seize upon the idea and the result is so surprisingly satisfactory as to be beyond expectation. A great deal of present-day research is carried on in colleges equipped for the purpose; however, not all by any means. Much of it is accomplished by pharmaceutical firms who sometimes spend millions of dollars on buildings and equipment and securing the best trained personnel for the purpose. True, the purpose may be to produce in the end a product of the highest merit to command a price. However, in doing so a service is performed from which the whole world may benefit.

The writer is aware of the attitude of the scientific mind that research is a matter of ascertaining the truth regardless of any utilitarian purpose it may serve. Much research never really gets beyond this.

We wonder at times and shudder at the possible effect of socialization with its high taxation and tendency to level down, in cramping commercial altruism (why not the term?) that has produced such gratifying results. Much of the material progress the end-result of scientific research is due to financing by the profits of industry. Many scholarships and fellowships available to able and talented students in our universi-

ties would have been impossible otherwise. Tax so-called excess profits, socialize medicine and everything will be reduced to drabness. There will be little or no funds, and there will be little incentive towards excellence.

THE year draws to a close and with it the fiscal year of probably the majority of county medical societies throughout the entire state. This brings up the subject of society annual dues. The county societies together with the Michigan State Medical Society have been increasingly more active in the interests of their members. The demand becomes greater for prompt payment of membership dues. The largest fee charged is thirty dollars a year and that in Wayne County. Even this is a small fee compared with that paid by organized craftsmen in industry. The annual dues of each typesetter, compositor, make-up man and printer of this JOURNAL are fifty dollars. Compare this amount, doctor, with what your county society expects of you.

AESCULAPIUS TRUMPS

Oh spare me from the blatherings
Of those who, while at gatherings
For bridge, discuss their appendectomies.
I'll rate as four-star minuses,
Those sufferers with sinuses
Who jeer with scorn mere tonsilectomies.

From those whose pet psychosis
Is their grandpappy's thrombosis
Or a recently discovered allergy;
Who discuss their rheumatism,
And their aunties' aneurysm,
May I forevermore delivered be!

To those whose whole exterior,
Both frontal and posterior,
Is seamed with stitches large and stitches small,
May I say that operations
Forming inter-deal orations
Have most decidedly begun to pall.

Come, let us in the future
Have our bridge without the suture,
The scalpel and the therapeutic ray.
If you wish, before and after,
Diagnose and heave the rafter,
But while the game is on, SIT IN AND PLAY!

—Helen Hawthorne in *McLean's Magazine.*

It's An Idea

The police of Zagreb, Jugoslavia, require violators of traffic ordinances to pull over to the side of the road and deflate all tires. The number of accidents on the streets of this city has fallen considerably. —*United States Municipal News.*

The Editor's Easy Chair

ILLUSTRATIVE VERSE

ELSEWHERE in this number of THE JOURNAL of the Michigan State Medical Society we have reviewed a real scientific book entitled, "Big Fleas Have Little Fleas," which calls to mind the frequency with which scientific men have resorted to verse, some good and some bad, to illustrate their meaning. The author of the lines on the Parasitic Flea was Jonathan Swift, who lived during the latter part of the seventeenth century and the first half of the eighteenth. He is well known as the author of "Gulliver's Travels." He also won the reputation of being England's greatest satirist. The complete stanza runs as follows:

"So, naturalists observe, a flea
Hath smaller fleas that on him prey;
And these have smaller still to bite 'em,
And so proceed *ad infinitum.*"

A later rhymer, De Morgan, who lived during the nineteenth century, carried the jingle a little farther:

"Great fleas have little fleas upon
their backs to bite 'em.
And little fleas have lesser fleas,
and so *ad infinitum.*
And the great fleas themselves, in turn,
have greater fleas to go on
While these again have greater still, and
greater still and so on."

Another verse that has become current coin with students of psychology and physiology illustrates the fact that where we interfere with an act which is usually involuntary, we immediately get into trouble:

"The centipede was happy quite
Until a toad in fun
Said, 'Pray, which leg goes after which?'
That worked her mind to such a pitch
She lay distracted in a ditch,
Considering how to run."

The author was a Mrs. Craster in *Casell's Weekly,* an English publication, the date, 1871.

* * *

The subject of heredity has been much discussed by the biologist and the medical

profession since the discovery of the epoch-making work of John Gregor Mendel, which laid buried in an obscure magazine where it first appeared in 1866. The author of the current scientific conception of heredity was an Austrian monk who died in 1884; his work was not discovered until many years after his death.

Vision a biologist or any scientifically-minded person standing before a century old portrait of a coy damsel of the time, uttering the following monologue:

"Oh, Damsel Dorothy! Dorothy Q.!
Strange is the gift that I owe you;

. . .

What if a hundred years ago
Those close-shut lips had answered 'No.'

. . .

Should I be I, or would it be
One-tenth another, to nine-tenths me?"

"Soft is the breath of a maiden's yes;
Not the light gossamer stirs with less;
But never a cable that holds so fast
Through all the battles of wave and blast,
And never an echo of speech or song
That lives in the babbling air so long!
There were tones in the voice that whispered then
You may hear today in a hundred men."

Of course, everyone familiar with the work of Oliver Wendell Holmes will recognize the lines on Dorothy Q.

* * *

Or note the significance of nurture in its struggle with nature (inheritance) in the following:

My ancestors lie buried on a hill
High and green, and they lie in rows
Tucked in under the waving grass.
Why don't they stay there? Goodness knows!
But they steal behind me, their fingers poke
Into my business. What they want goes.
Aunt Maria she liked to scrimp,
Uncle Abner he liked to pray,
Fussy old Jonathan Pettiboe—
All of them try to boss the way
I live my life—Well, it can't be gay.

How can I call my life my own
When the scheming dead try to live through me?
How can I know what I really am
With their wishes hounding me greedily?
Though I think them dead, they're not, they live—
Parasites having their way with me.

The following little poem on "Heredity" by Thomas Bailey Aldrich, an American poet who died in 1907 at the age of seventy-six years, also fits in with the discussions on the subject of heredity.

A soldier of the Cromwell stamp,
With sword and psalm-book by his side,
At home alike in church and camp:
Austere he lived, and smileless died.

But she, a creature soft and fine—
From Spain, some say, some say from France;
Within her veins leapt blood like wine—
She led her Roundhead lord a dance!

In Grantham church they lie asleep;
Just where, the verger may not know.
Strange that two hundred years should keep
The old ancestral fires aglow!

In me these two have met again;
To each my nature owes a part:
To one, the cool, and reasoning brain;
To one, the quick, unreasoning heart.

Many other examples might be given. Probably, however, Lewis Carroll's whimsical verses in Alice in Wonderland are used as illustrative material more than any other inclusions from poetry and near poetry. One might almost conclude that Alice in Wonderland and Lewis Carroll's other works are part of the education of a scientist. We have even seen phraseology quoted in scientific books and papers which we recognize as originating with Gilbert and Sullivan.

IF YOU'RE NOT APPRECIATED CONSIDER SHAKESPEARE

Goldsmith declared him absurd.
Many called him an upstart crow.
Hume called him a misshapen giant.
Voltaire said he was a drunken savage.
Byron openly sneered at him and roundly denounced him.
Dryden said he wrote "below the dullest writers of our age."
Sardou called *Hamlet* "an empty wind-bag hero."
Pepys said that *Romeo and Juliet* was the worst play he had ever heard.

—*Your Life*, New York.

CHRISTMAS

Oh gi' me a Christmas wi' snow and wi' ice,
A day that is cold, but sunny and nice;
And friends wha' are willin' tae frolic a' day,
And horses tae drive in an auld bobsleigh.

Ye may hae yer steam heat in yer two-family flat,
Yer bathrobe and slippers and yer aul turkish mat;
But gi' me a muffler, a blanket, and hay,
Wi' horses and bells and an auld bobsleigh.

I ken I am auld, decrepit and creak,
But it's Christmas tae me—nae time for defeat;
Ye may tak yer auld auto and stow it way,
But gi' me my horses, my bells, and a sleigh.

Oh, we need Santa Claus tae come in the night
Tae fill a' the stockings afore it's daylight,
And prancing bay horses and an auld bobsleigh
Wi' bells that will jingle—for a guid Christmas Day.

WEELUM.

President's Page

SEASON'S GREETINGS

ANOTHER year has nearly completed its course. It is always well to take stock of our liabilities and assets at stated intervals. Are we solvent? What represents our gains—our losses? Our gains must be measured in terms of our contribution to society. Our losses in terms of where we have been unable or failed to render service or to improve our position for rendering service.

We are gaining in scientific knowledge; we are becoming more social minded; we see the problems presented to us in the light of the whole field of physical and emotional pathology.

Our losses have been minor. In a few instances we have lost sight of true objectives. In some places we have been retarded by common enemies to social progress. On the final balance sheet we are still in black ink. We have reason to be proud of our accomplishments and assets.

The Season's Greetings are extended to one and all, and the hopes for the ensuing year will stay high as long as we maintain our objectives of education and of service to humanity—which our training and experience have taught us is the best method of distribution.

Henry A. Luce

President, Michigan State Medical Society

DEPARTMENT OF SOCIETY ACTIVITY

L. FERNALD FOSTER, M.D., Secretary

THE STORY OF HEALTH

THE story of health and medical care is best understood by and can best be told by members of the medical profession. The physician, by virtue of his training and experience, recognizes the health needs of the public and appreciates by what means they can best be met.

The intriguing subject of health has been made the object of discussion by many lay groups and has received unusual press publicity in recent months. Unfortunately, the authors of many articles on health are ill-prepared to give the facts and have often developed a distorted public opinion on the subject.

Since a true presentation of facts becomes the privilege and responsibility of the medical profession, it behooves each physician to keep abreast of medical progress, both scientific and social, and to develop an ability to both write and speak the story. Some physicians feel inadequate, from the public speaking standpoint, to present their knowledge to lay groups. If this be true, why not follow the example of some of our progressive societies and develop courses in Public Speaking for physicians? This will make it possible for them to present interestingly, to the public, the facts which they alone know best.

Organized medical groups have requested the opportunity to present their story to the layman. Let's be prepared.

IODIZED SALT

FOR some time the Michigan State Medical Society has been collaborating with others in the study of iodized salt. The studies are familiar to most of the members of the State Society; but recently we learned of the appreciation this work has received throughout this and other countries.

A nationally known Town Hall lecturer has paid tribute to the Michigan State Medical Society and its collaborators for a most remarkable contribution to the knowledge of goitre and its prevention.

The Iodized Salt Committee has been untiring in its research and it is only fitting that we acknowledge, here, our appreciation of its fine work and its international recognition among scientists.

ANNUAL MEETING OF THE COUNCIL

September 18 and 20, 1938

HIGHLIGHTS:

1. **Executive Committee of The Council Reëlected: P. R. Urmston, M.D., Chairman; Vernor M. Moore, M.D., Vice Chairman; Henry R. Carstens, M.D., Chairman of the Finance Committee; I. W. Greene, M.D., Chairman of the County Societies Committee; A. S. Brunk, M.D., Chairman of the Publications Committee; and Philip A. Riley, M.D., Speaker of the House of Delegates.**
2. **Report given on "Michigan Health Conference" held in East Lansing, September 10, 1938.**
3. **Report presented on special meeting of A.M.A. House of Delegates, Chicago, September 16-17.**
4. **Approval of 1938-39 M.S.M.S. committees.**
5. **Decision made on membership transfers from other states.**
6. **Thanks voted to essayists, arrangements committee, and all who in any way aided to make the 1938 M.S.M.S. Convention such an outstanding success.**

1. *Roll Call.*—The Annual Meeting was called to order on September 18, 1938, by Chairman Urmston in the Founders' Suite of the Book-Cadillac Hotel, Detroit, at 8:15 p.m. Councilors and officers present included Drs. P. R. Urmston, V. M. Moore, A. S. Brunk, W. E. Barstow, F. T. Andrews, Henry R. Carstens, H. H. Cummings, I. W. Greene, Wilfrid Haughey, T. F. Heavenrich, Roy H. Holmes, W. A. Manthei, J. E. McIntyre, P. A. Riley, E. F. Sladek, Geo. A. Sherman, Henry Cook, Henry A. Luce, L. Fernald Foster, and M. H. Hoffmann. Also present were R. G. Leland, M.D., of the A.M.A., B. R. Corbus, M.D., Larry C. Salter, and Executive Secretary Wm. J. Burns.

2. *Minutes.*—The minutes of the September 9 meeting of the Executive Committee were read and approved.

3. *Bills Payable.*—Bills payable were presented and ordered paid.

4. *"Michigan Health Conference."*—The Chair called upon President Cook to report on the "Michigan Health Conference" held at East Lansing on Sept. 10. Dr. Cook explained the reason why the conference was called and reviewed briefly the results.

The Chair also called upon Dr. R. G. Leland, Director of the Bureau of Medical Economics of the A.M.A., to give his impression of the Conference. Dr. Leland stated he was very much impressed by the large number of physicians present and their intense interest. The meeting was very well conducted and resulted in favorable discussion. Dr. Leland cautioned that there might be some danger in the resolution re establishment of diagnostic centers. These are valuable if kept within bounds, but they may be used as an entering wedge for more clinic service. The difficult job which lies in the future is putting the recommendations of the Conference into effect. This will require even more hard work than the development of the excellent Conference program. Dr. Leland was thanked for his remarks.

5. *Report of A.M.A. Delegates.*—The Chair called upon Dr. Luce for a report of action of the A.M.A. House of Delegates at its special session in Chicago on Sept. 16 and 17. Considerable discussion ensued relative to the mimeographed copy of the "Report of the Committee to Consider the National Health Program."

Motion of Drs. Carstens-McIntyre that this matter be referred to the A.M.A. Delegates from Michigan, with the request that they get an official report, and present it to the Michigan House of Delegates as their report of the action of the A.M.A. Committee to Consider the National Health Program. Carried unanimously.

6. *Report of Medico-Legal Committee.*—The monthly report of this committee was read. Motion of Drs. Carstens-McIntyre that the report of the Medico-Legal Committee be received. Carried.

7. *Supplemental Report of Committee on Postgraduate Medical Education.*—This report was read by Dr. Cummings, and The Council instructed Dr. Cummings to present the report to the House of Delegates.

8. *Supplemental Report of The Council.*—This report was read by the Executive Secretary. The report was discussed and after one minor correction, motion of Drs. Haughey-McIntyre that the report be approved for transmittal to the House of Delegates. Carried unanimously.

9. *Resolutions of Woman's Auxiliary.*—A letter from Dr. H. S. Collisi, Chairman of the Advisory Committee to Woman's Auxiliary, enclosing resolutions proposed to be presented to the Woman's Auxiliary this week, was read. With reference to the suggested resolution urging the study and presentations to lay groups of the theory and practice of socialized medicine in foreign countries and its possibilities if adopted in the United States: Motion of Drs. Moore-Holmes that The Council approves the dissemination of authentic information re the disadvantages to the people of certain systems of medical practice being tried in other countries, and respectfully suggests that this information may be obtained from the Public Relations Committee of the Michigan State Medical Society, which offers its help in this work; also that the M.S.M.S. Council expresses itself as not being particularly favorable to the resolution urging school boards to accept a textbook on the subject of tuberculosis. Carried unanimously. The proposed amendment to the by-laws of the Woman's Auxiliary was presented, and approved on motion of Drs. McIntyre-Moore. Carried unanimously.

10. *Speaker at Memorial for the late Senator Royal S. Copeland.*—The request for a speaker from the M.S.M.S. at a dedication ceremony in honor of former Senator Copeland at Dexter was presented. Motion of Drs. McIntyre-Carstens that the Chairman of The Council appoint a representative of the State Society to speak on this occasion. Carried. The Chairman appointed President Henry Cook.

11. *Group Hospitalization Plans.*—Executive Secretary Burns reported that the Michigan Farm Bureau is interested in group hospitalization.

12. *Membership.*—Dr. Carstens presented the matter of the various types of membership in Wayne County. No action was taken.

13. *Civil Service Announcements.*—Executive Secretary Burns reported several announcements of the Michigan Civil Service for physicians.

14. *Recess.*—Motion of Drs. McIntyre-Carstens that the meeting recess until called by the Chairman. Carried unanimously. The meeting was recessed at 11:20 p.m.

Minutes of Meeting September 20, 1938

15. *Minutes.*—The minutes of the meeting of the Council of Sept. 18 were read and approved.

16. *1938-39 Committees.*—Dr. Luce presented his proposed committee appointments for the coming year, which were carefully considered. Motion of Drs. McIntyre-Heavenrich that the committee appointments as presented be confirmed. Carried unanimously.

17. *Membership Transfer.*—The transfer of membership to the Michigan State Medical Society from other states where dues have been paid for the entire year was discussed, the question being: "Should these physicians be required to pay dues in the M.S.M.S. after having paid dues for the entire year in the other state?" After considerable discussion, motion of Drs. Sherman-Holmes that any physician who transfers from another state to this state shall pay his proportionate dues to the Michigan State Medical Society for the balance of that year. Carried unanimously.

18. *Reorganization of The Council.*—

(a) Dr. P. R. Urmston was reëlected Chairman of the Council, on nomination of Drs. Carstens-Heavenrich, et al. Carried unanimously.

(b) Dr. Vernor M. Moore was reëlected Vice Chairman of the Council, on nomination of Drs. Holmes-Cummings, et al.; carried unanimously.

(c) Dr. Henry R. Carstens was reëlected Chairman of the Finance Committee of The Council, on nomination of Drs. McIntyre-Cummings, et al.; carried unanimously.

(d) Dr. I. W. Greene was reëlected Chairman of the County Societies Committee of the Council, on nomination of Drs. Holmes-Brunk; carried unanimously.

(e) Dr. A. S. Brunk was reëlected Chairman of the Publications Committee of the Council, on nomination of Drs. Greene-Holmes. Carried unanimously.

19. *P. G. Certificates.*—Motion of Drs. Brunk-Moore that no action be taken on application for certification in P. G. education until the applicant is certified by the county medical society to the State Society as being in good standing. Carried unanimously.

20. *Vote of Thanks.*—A vote of thanks was expressed by The Council to all the Essayists on the program of the Annual Meeting in Detroit, to the Wayne County Medical Society as host, to the Local Committee on Arrangements, to Dr. J. D. Bruce in conducting the Postgraduate Convocation, to the Radio Committee and the Twenty-one physicians who gave addresses over Detroit Stations, to the Detroit Convention Bureau, the Book-Cadillac

Hotel, the Press Committee and newspapermen, and all others who in any way contributed to the success of the 73rd annual convention.

21. *Adjournment.*—The meeting was adjourned.

COUNCIL AND COMMITTEE MEETINGS

1. Wednesday, October 19, 1938—Executive Committee of The Council—Hotel Olds, Lansing—2:30 p. m.
2. Thursday, October 20, 1938—Representatives to Michigan Health League—Hotel Olds, Lansing—6:30 p. m.
3. Wednesday, November 2, 1938—Maternal Health Committee—Statler Hotel, Detroit—12:00 noon.
4. Thursday, November 10, 1938—Mental Hygiene Committee—Henry Ford Hospital, Detroit—6:30 p. m.
5. Sunday, November 13, 1938—Preventive Medicine Committee—Statler Hotel, Detroit—3:00 p. m.
6. Wednesday, November 16, 1938—Committee on Distribution of Medical Care—Statler Hotel, Detroit—12:00 noon.
7. Wednesday, November 16, 1938—Executive Committee of The Council—Statler Hotel, Detroit—3:00 p. m.
8. Wednesday, November 16, 1938—Cancer Committee—Women's Club Bldg., Ann Arbor—6:30 p. m.
9. Thursday, November 17, 1938—Legislative Committee—Hotel Olds, Lansing—3:00 p. m.
10. Monday, November 28, 1938—Representatives to Joint Committee on Health Education—W.C.M.S. Building, Detroit—12:15 p. m.
11. Sunday, December 4, 1938—Advisory Committee on Syphilis Control—Hotel Olds, Lansing—3:00 p. m.
12. Tuesday, December 13, 1938—Cancer Committee—Woman's Club Bldg., Ann Arbor—6:30 p. m.

MUSKEGON PLAN FOR MEDICAL CARE OF INDIGENTS

The Muskegon County Medical Society have a comprehensive plan for the care of the indigent sick. Before marking out a plan, an exhaustive survey was made, when it was found that there were forty-two different units or agencies in existence for the purpose of providing medical relief for the indigent sick. With so many agencies operating, the tendency was to shift the burden from one to another, but finally it devolved upon the physician to take care of the medically indigent, who gives of his time and experience, often money, while other agencies providing the necessities of life such as the grocer, landlord, coal dealer, etc., are paid. This, it goes without saying, was a highly unsatisfactory condition.

Under the new method, any one of the forty-three or more agencies to which the medically indigent might apply would first send the patient to his family physician, thereby preserving the physician-patient relationship. In an instance in which the patient had no special physician, he was given the privilege to select any physician, who, in turn, might take care of him as a charity patient. If, in the physician's opinion, the patient required medical care or hospitalization, and the physician felt that he did not care to take the applicant as a charity patient, the latter would be referred to the central office in charge of a coördinator. The coördinator would be an employee of various governmental units supplying funds for the medically indigent. The coordinator would determine whether or not the responsibility lies with Muskegon County. The responsible unit would be called upon to pay the bill. The coördinator's term of office would be from three to five years.

The report of the medical committee of the health division of the Muskegon Community Council and the report of the Allied Health Group Committee of the Muskeon County Medical Society go into detail in regard to the development of the plan.

WOMAN'S AUXILIARY

President—Mrs. P. R. Urmston, 1862 McKinley Avenue, Bay City, Michigan
Sec.-Treas.—Mrs. R. E. Scrafford, 2210 McKinley Ave., Bay City, Michigan
Press—Mrs. J. W. Page, 119 N. Wisner Street, Jackson, Michigan

CHRISTMAS GREETINGS

To the hundreds of physician's wives who have banded together throughout the State, earnestly serving the needs of the medical profession, and to the thousands of doctors so willing to assist us, it gives me great pleasure to send Christmas greetings.

At this season of the year we are all busy with plans to make the holiday season happy and joyful for our families and friends.

May each and every one have a delightful Christmas.

When the holidays are over I do hope to have advice from all committees, as to their plans, progress or suggestions which will be carefully considered, allowing me to plan far in advance for a successful annual meeting next September.

(Mrs. P. R.) Louise T. Urmston,
President.

GREETINGS AUXILIARY MEMBERS

Your Secretary-Treasurer wishes to tell you again that national headquarters will supply you with program material on request. Also, speakers can be obtained for your programs for your Public Relations and Health Education activities by writing to Mrs. Harrison Collisi, 121 College N. E., Grand Rapids.

Mrs. R. E. Scrafford

Your President attended the board meeting of the National Auxiliary at Chicago, November 11. Following that she called the mid-winter meeting of our State Board at Detroit, November 18.

At this time I wish to urge all County

Treasurers to have your National and State dues in as soon as possible. Dues for the State Treasury are 75c and for the National 25c. County Treasurers should have this money in the hands of the State Treasurer by March 3, 1939. That is the deadline.

As soon as the supplies come from the National office, the County Treasurers will be forwarded their supplies. In the meantime proceed to collect your dues. Your State officers will appreciate your coöperation in this regard, as our expenditures were unusually high this past year, and we also wish to maintain our good record with the National Auxiliary.

Cordially yours,
(Mrs. R. E.) HELEN SCRAFFORD,
Secretary-Treasurer.

Calhoun County

The Woman's Auxiliary of the Calhoun County Medical Society met for a coöperative dinner on Tuesday, October 4, at the home of Mrs. C. W. Brainard. Following dinner a business meeting was held. Reports of the State Auxiliary Meeting were given by Mrs. C. G. Wencke and Mrs. L. R. Keagle. The Chairman of each committee discussed her plans for the year. The Hygeia Chairman was asked to contact all the smaller schools in the county with a view of placing in each one a complimentary subscription for one year to Hygeia. A committee is also investigating possible projects for the Auxiliary to undertake. Since our last meeting in June we have donated to the new Community Hospital a unit of seven wheel chairs.

MRS. TH. KALVOORD,
Press Chairman.

Jackson County

Mrs. Glen Hicks, a member of the Jackson Auxiliary, who retired this September as state president of the Woman's Auxiliary, was the main speaker of the evening. She gave us many interesting facts about the national Auxiliary convention held in California this summer. She said Kentucky leads in having the most active Woman's Auxiliaries in the country. To our delight, she then talked very informally about some of her personal experiences on this trip.

Dr. Philip A. Riley presented the pending legislative measures that were approved at the recent state medical meeting held in Detroit. He especially mentioned those measures based on socialized medicine. He stated that Jackson, Calhoun, and Washtenaw Counties have far more hospital beds than needed at present.

Mr. Hall, of the City Commission, talked to us about the necessity of a city charter revision, our Jackson charter being adopted 24 years ago.

Mrs. R. H. Alter, president, conducted a short business meeting, at which time reports were read by the secretary and the treasurer.

The meeting was held Tuesday evening, October 18, at the home of Mrs. W. E. McGarvey. Dinner was served by the committee which consisted of Mesdames E. F. Lewis, chairman, R. J. Hanna, J. W. Wholihan, W. B. Anderson, Frank Van Schoick, and John Ludwick.

(Mrs. A. M.) ANNA HYDE SHAEFFER,
Press Chairman.

Kalamazoo

Mrs. L. N. Upjohn entertained members of the Woman's Auxiliary to the Academy of Medicine at a coöperative dinner on October 18. This was the first fall meeting. Thirty-five members responded to roll call.

New officers for the year are: President, Mrs. F. M. Doyle; president-elect, Mrs. Ralph Cook; vice president, Mrs. Sherman Gregg; secretary, Mrs. L. J. Crum; treasurer, Mrs. W. D. Irwin.

The following committee chairmen were appointed: Legislative, Mrs. F. T. Andrews; public relations, Mrs. Walter Den Bleyker; social-program, Mrs. W. O. Jennings; Hygeia, Mrs. Keith Bennett; membership, Mrs. John MacGregor; calling, Mrs. I. W. Brown, and publicity, Mrs. Hugo Aach.

(Mrs. Hugo) BARBARA K. AACH,
Publicity Chairman.

Kent County

Dr. Ruth Herrick, chairman of the Division of Dermatology and Syphilology of the Michigan State Medical Society, gave a most interesting talk on the "The New Social Hygiene Program," at the year's first meeting of the Woman's Auxiliary to the Kent County Medical Society. Basing her talk on Syphilis, Dr. Herrick said, "Syphilis is a simple germ disease whose germ spirochete is a human parasite that can only survive at human body temperature. In addition to the changing social viewpoint on the disease, Dr. Herrick outlined treatment, discussed congenital syphilis and quoted from Surgeon General Parran's book 'Shadow on the Land,' which contains much statistical information and includes among its statements that 'one adult in ten has had or still has syphilis'."

Among the most interesting activities planned for the year are those under the direction of the Hygeia committee. This committee not only has conducted a rummage sale during the past month but is now making plans for a Persian Tea to be given in January and a Carnival sometime during the spring.

The annual dinner dance took place Friday evening, October 28, at Kent Country Club and was quite a gala affair. Hallowe'en decorations were the keynote for this year's party and entertainment included not only dancing and cards, but also exhibitions of modern dances including the Big Yam.

MRS. CHARLES H. FRANTZ,
Press Chairman.

Lapeer County

The Lapeer County Medical Auxiliary met on Friday evening, September 4, at the Hotel Barrett, Lapeer, for a dinner with the doctors. On account of the short notice the attendance was small and no business meeting was held. "Novelty" bridge rounded out the evening.

On Friday evening, October 28, the Auxiliary met with the President, Mrs. H. G. Merz. After a bountiful pot-luck supper, Mrs. Merz gave a report of the State Auxiliary meeting at the Book-Cadillac, Detroit. Every one brought a "white elephant" to be used as a prize in the "medical" games which followed the business meeting. Mrs. John McBride extended an invitation to the members for a pot-luck supper at her home at North Branch in November.

MRS. D. J. O'BRIEN, *Reporter.*

Freddy—There certainly are a lot of girls in our town who do not wish to get married.
Sammy—How do you know?
Freddy—I've asked 17 of them already.

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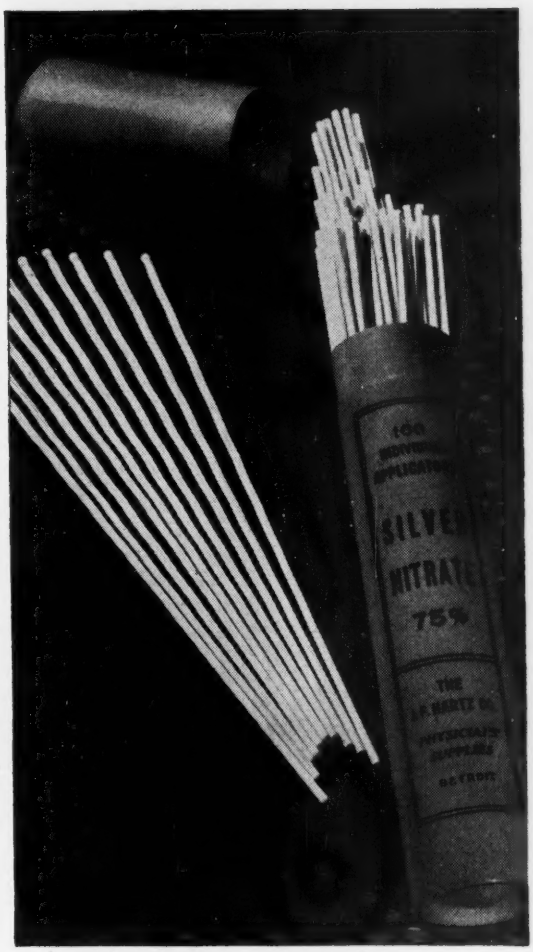

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MICHIGAN'S DEPARTMENT OF HEALTH

DON W. GUDAKUNST, M.D., Commissioner
LANSING, MICHIGAN

ADVISORY COMMITTEE APPOINTED

An Advisory Committee for the Expansion of Public Health Activities in Michigan has been appointed by Governor Frank Murphy. Members of the committee will include Dr. Henry A. Luce of Detroit (chairman), Dr. Edward J. O'Brien of Detroit, Dr. Henry F. Vaughan of Detroit, Dr. Cyrus Sturgis of Ann Arbor, William J. Scripps of Detroit, Louis J. Nims of Lansing and Paul de Kruif of Holland.

The committee will serve in an advisory capacity to the Governor and the State Health Commissioner as to the methods of expanding the public health program. It will act as the main steering committee to put into operation the plans advanced at the Conference on Public Health held in Lansing September 10. This committee will have the assistance of subcommittees dealing with the problems of building diagnostic centers, legislative matters and expansion of personnel engaged in public health work.

"It is my hope," said Governor Murphy, "that this committee will be able to mobilize the forces of this state in such a manner that our health agencies and private physicians bring about a notable decrease in the preventable diseases and deaths of the state and thereby effect a vast saving in the cost of sickness."

SCHOOL HEALTH EDUCATION PROGRAM

The Curriculum Steering Committee, acting in an advisory capacity to the Michigan Department of Public Instruction, has taken a significant step toward a more effective instructional program in health in the public schools. The committee has accepted health education as a fundamental factor in the far-reaching reorganization of the Michigan curriculum program now being carried on by the Department of Public Instruction.

Following a conference with health education leaders, Superintendent Eugene B. Elliott has appointed an exploratory committee which will recommend a program of health education to be carried on through the schools of Michigan. Members of this Exploratory Committee on Health Education include Dr. Mabel Rugen, Ann Arbor (chairman); Dr. Vaughn S. Blanchard, Detroit; Miss Marjorie Delavan, Lansing; Dr. Kenneth Easlick, Ann Arbor; Miss Alice Evans, Detroit; Dr. M. R. Kinde, Battle Creek; Chester F. Miller, Saginaw; James Ten Brink, Muskegon; Miss Grace Ryan, Mt. Pleasant; G. Robert Koopman, Lansing (secretary).

The first meeting of this committee was held October 31. The group expects to prepare a statement of general policy and functions of the various contributing agencies for the next meeting of the Curriculum Steering Committee.

MORTALITY DECREASING

Mortality reports for the first nine months of 1938 compiled by the Bureau of Records and Statistics show a decline in total deaths from 40,572 in 1937 to 37,402 this year. Infant mortality, too, is down from 3,346 in 1937 to 3,187 in 1938. Maternal deaths slightly exceed last year's figures when an all-time low rate for this cause was set. There were 249 maternal deaths last year compared to 360 this year. Births have increased from 68,889 in 1937 to this year's total of 72,260 for the nine month period.

Comparative mortality figures for the major communicable diseases in 1937 and 1938 are indicated in the accompanying table.

COMMUNICABLE DISEASE MORTALITY
1937-1938

Disease	Sept. 1938	Sept. 1937	9 Months 1938	9 Months 1937
Pneumonia	136	155	2,053	3,129
Tuberculosis	146	151	1,467	1,656
Typhoid Fever	2	3	19	23
Diphtheria	2	8	28	45
Whooping Cough	15	17	94	105
Scarlet Fever	3	4	71	124
Measles	0	0	96	8
Smallpox	0	0	0	1
Meningitis	3	4	16	35
Poliomyelitis	3	18	7	43
Syphilis	30	25	278	298
Gonorrhea	0	2	6	7

PERSONNEL

Dr. Clair E. Folsome, field consultant in obstetrics for the Michigan Department of Health, has been invited to speak at the New England Regional Maternal and Child Health Conference November 16, at Providence, R. I. The invitation was extended by Dr. Edwin F. Daily, director of the Division of Maternal and Child Health, Children's Bureau, who declared that Michigan's program in this field is outstanding. Dr. Folsome's services are available to local medical societies upon request. His schedule until January 1 will take him to Newaygo, Oceana, Ionia and Montcalm counties.

Dr. Georgia V. Mills of Detroit, a graduate of the Wayne University College of Medicine, has been attached to the staff of the Bureau of Maternal and Child Health as field physician. Dr. Mills will conduct women's health classes and at present has been assigned to Tuscola County.

Dr. Pearl Toivonen, formerly field physician for the Michigan Department of Health, has accepted an offer to become director of the Ontonagon-Baraga District Health Department. Dr. Toivonen's headquarters will be at Ontonagon.

Dr. Philip Bourland, until recently attached to the Department's Bureau of Epidemiology, has resigned to accept a position as director of the Dickinson County Health Department with headquarters at Iron Mountain.

DISTRIBUTION OF ANTIPNEUMOCOCCIC SERUM

The Michigan Department of Health is now producing and distributing antipneumococcic serum to physicians free of charge for treating patients having Type 1 or Type 2 pneumonia. Physicians may obtain this serum upon request without regard to the indigency of the patient, the time interval between onset of the disease and beginning of treatment or the total amount of serum used in treating any case or the place of treatment.

In order that this serum may be used most effectively, however, certain procedures have been established by the Department as to typing of cases, distributing stations and physicians' reports. A booklet describing recommended procedures in the clinical use of antipneumococcic serum is also being prepared by Dr. A. E. Price of Detroit and will soon be available for physicians. Procedures estab-

lished by the Department for the distribution and use of anti-pneumococcic serum as well as the registered laboratories making pneumococcus type determinations are indicated below.

Registered Typing Station

Michigan law requires that all laboratories doing communicable disease laboratory work be registered with the Michigan Department of Health Laboratory. It is only on the basis of typing done by such registered laboratories that distributing stations may distribute state antipneumococcic serum to physicians.

A registered typing station examines the material submitted for typing. In the event the pneumonia is found to be caused by one of the types for which serum is available, the "Receipt for Serum" form is filled out in triplicate, one copy being retained by the typing station, the other two being given the physician.

Antipneumococcic serum is available to physicians from serum distributing stations only on the presentation of these receipts for serum completely filled out showing that the type of pneumococcus causing the pneumonia has been demonstrated by a *Registered Typing Station.*

Serum Distributing Station

On the presentation of two "Receipt for Serum" forms completely filled out, the distributing station gives the physician the serum receipted for, together with one or more copies of the "Case Report" form and an envelope for submitting one copy of the case report to the Michigan Department of Health. (In counties having full-time county or district health departments, these reports may be routed through the county or district health officer.) In order to be eligible for serum, a physician must complete and return to the Michigan Department of Health a case report covering each case treated with state serum within one month of the onset of pneumonia.

One copy of the receipt for serum is kept by the distributing station for its own files, the other returned to the Michigan Department of Health in envelopes provided for the purpose. (Where county or district health departments are acting as distributing stations, substations established to facilitate the distribution of serum will turn these over to the county or district health department, which in turn will send them on to the Michigan Department of Health.)

This receipt for serum when received by the Michigan Department of Health constitutes an order for additional serum in the amount shown on the receipt as having been distributed, and is the only basis on which serum will be sent out for replenishing the supply of a distributing station.

A "Receipt for Serum" form marked "Returned Outdated" and showing the amount and type of serum returned should be sent to the Michigan Department of Health to cover such serum as has to be returned, and will constitute an order for a like amount of serum.

Physician

Within one month of the onset of pneumonia in the patient for whom serum has been obtained, the physician must submit a case report on the form provided for this purpose to the Michigan Department of Health. (These reports may be routed through a county or district health officer where a county or district health department has been established.)

There are no restrictions placed on the use of state antipneumococcic serum by the State Department of Health with regard to indigency, time interval between onset of illness and beginning of

EDUCATION

Physicians who teach correct bowel management to their patients will appreciate the value of the new "Habit Time" booklet as a means of impressing patients with the importance of bowel regularity.

"Habit Time," written for doctors' patients in a clear, interesting style, embraces a discussion on diet, exercise and bowel regularity, in addition to a simple explanation of the functions of digestion.

"Habit Time," illustrated by Tom Jones, celebrated anatomical artist, has been reviewed and found satisfactory by the Council on Pharmacy and Chemistry of the American Medical Association. It is offered, free, by Petrolagar as an aid to doctors.

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OBSTETRICS—Two Weeks Intensive Course starting March 13, 1939. Informal Course starting every week.

FRACTURES & TRAUMATIC SURGERY—Informal Course every week; Intensive Ten Day Course starting February 13, 1939.

OTOLARYNGOLOGY—Two Weeks Intensive Course starting April 10, 1939. Informal Course starting every week.

OPHTHALMOLOGY—Two Weeks Intensive Course starting April 24, 1939. Informal Course starting every week.

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Bay City
City Health Department
Hess Clinical Laboratory
Jones Clinic
Mercy Hospital
Gamble Clinical Laboratory
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Benton Harbor
Clinical Laboratory, Mercy Hospital

Coldwater
Branch County Medical Laboratory

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Dearborn Clinical Laboratory

Detroit
City Health Department
Alexander Blain Hospital
Central Laboratories
Clark Clinical
Chas. G. Jennings Hospital
Children's Hospital
Delray General Hospital
Detroit X-Ray and Clinical
Downtown Clinical
East Side General Hospital
Edyth K. Thomas Memorial Hospital
Ellwart Clinical
Evangelical Deaconess Hospital
Fairview Sanatorium
Florence Crittenton Hospital
Grace Hospital
Harper Hospital
Havers Laboratory
Henry Ford Hospital
Jordan Clinical Laboratory
Marr General Hospital
Medical Clinical Laboratory
Nottingham Clinical Laboratory
Owen Clinical
Parkside Hospital
Physicians Service
Providence Hospital
Receiving Hospital
St. Joseph's Mercy Hospital
St. Mary's Hospital
Shurly Hospital
Stafford Biological Laboratory
Trinity Hospital
Woman's Hospital

East Lansing
Michigan State College

Eloise
Seymour Hospital

Flint
City Health Department
Hurley Hospital
St. Joseph Hospital
Zimmerman

Grand Rapids
Western Michigan Division, Michigan Department of Health
Allergic and Clinical Laboratory
Blodgett Memorial Hospital
Butterworth Hospital
St. Mary's Clinical Laboratory

Grosse Pointe
Cottage Hospital
Nottingham Clinical Laboratory

Hamtramck
Hamtramck Health Department
St. Francis Hospital

Hastings
Pennock Hospital

Socialized Medicine Ruled Out in California

California's laws do not permit socialized medicine by private corporations, the State Supreme Court ruled in a decision on file here today.

The court, in issuing a writ against the Pacific Health Corp., held that recognition for any "drastic" change in the social need for corporate medical practice "should come from the legislature."

"A corporation may not engage in the practice of such professions as law, medicine or dentistry," the decision stated.—*Detroit News,* Sept. 3, 1938.

"Isms"

Socialism means that if you have two cows, you give one to your neighbor. Under Communism you give both cows to the Government, which gives you back some of the milk. Under Fascism you keep the cows but give the milk to the Government, which sells you some of it back. And under New Dealism you shoot one cow, milk the other and then pour the milk down the sink!—*Detroit Free Press,* November 14, 1938.

General News and Announcements

Harold W. Wiley, M.D., of Lansing, addressed the members of the Eaton County Medical Society at its meeting of November 10. His subject was "Prenatal Care."

* * *

A One-man Mum Show was staged by Fred B. Miner, M.D., of Flint, on November 13, 1938, at his home. Doctor Miner has several unusually beautiful varieties in his collection.

* * *

The Bay County Medical Society inserted an advertisement in the local newspapers asking the citizens of Bay County to contact the Secretary if they were unable to obtain necessary medical and dental care.

* * *

Irvin Abell, M.D., president of the American Medical Association, has been awarded the Laetare medal by the University of Notre Dame. Doctor Abell is the seventh member of the medical profession to receive this award in the past fifty-six years.

* * *

E. W. Schnoor, M.D., Grand Rapids; I. W. Greene, M.D., Owosso; Chas S. Kennedy, M.D., Detroit; and Stanley W. Insley, M.D., Detroit, have been appointed to the Legislative Committee. Aaron D. Riker, M.D., Pontiac, has been appointed to the Preventive Medicine Committee.

* * *

The annual Beaumont Lectures in connection with the Wayne County Medical Society will be given at the Art Institute, Detroit, on February 20 and 21, 1939. The Beaumont Foundation Committee has been very fortunate in securing Dr. Jesse G. M. Bullowa of New York as the lecturer for 1939. Dr. Bullowa will discuss the subject of "Prophylaxis and Pneumonia Therapy." These are timely subjects and every member of the Michigan State Medical Society is welcome to attend.

* * *

Crippled and Afflicted Child Commitments for October, 1938:

Crippled Child: Total cases, 310, of which 73 went to University Hospital and 237 went to miscellaneous hospitals. From Wayne County, of the above 1 went to University Hospital, and 52 to miscellaneous hospitals, total of 53.

Afflicted Child: Total cases, 1,925, of which 242 went to University Hospital and 1,683 went to miscellaneous hospitals. From Wayne County, of the above, 37 went to University Hospital, and 392 went to miscellaneous hospitals, total of 429.

* * *

Talks given by the Michigan State Medical Society officers and the Executive Secretary include the following:

Speaker	*City*	*Date*	*Organization*	*Subject*
H. A. Miller LeMoyne Snyder	Stanton	November 4	Ionia-Montcalm Med. Soc.	"Legislative Activity"
Wm. J. Burns	Holt	November 7	Men's Community Club	"Budget Plans for Hospital and Medical Care"
Wm. J. Burns	Bay City	November 9	Woman's Auxiliary to the Bay County Medical Society	"Socialized Medicine"
L. Fernald Foster	Cass City	November 15	Rotary Club	"Federal Plans for Medical Care"
Robert S. Breakey	Ionia	November 29	Ionia Boy Scouts	"Venereal Diseases"

Ferris N. Smith, M.D., and O. H. McConnell, D.D.S., were guest speakers at the Ionia-Montcalm Medical Society meeting of November 10, held in Belding. Doctor Smith's subject was "Some Plastic Procedures About the Face of Interest to General Practitioners" and Doctor McConnell spoke on "Management of Jaw Fractures."

* * *

Warning! A graduate from a school of limited practice has been attempting to gain admission to a hospital as an interne on credentials which credit him with an M.D. degree. If you hear of any person calling himself "Baum" who applies for internship, be sure his credentials are carefully investigated.

* * *

The Eighteenth Annual Public Health Conference was held in Grand Rapids on November 9, 10, 11. The sessions were well attended by many physicians from all parts of the state. The Conference Program was under the direction of the Michigan Department of Health and the Michigan Public Health Association.

* * *

The Academy of Medicine at Cleveland recently called a special meeting to discuss a definition of the "practice of medicine by hospitals." The Definition proposed by its Economics Committee reads as follows:

"A hospital shall be considered to be practicing medicine when it charges or collects a fee for the professional services of a physician; or for the interpretation of any procedure performed by a layman at the physician's order."

* * *

The St. Clair County Medical Society held a Postgraduate Conference at Port Huron on November 8, with the following speakers: "The Heart in Middle Life" by E. D. Spaulding, M.D., of Detroit; "The Care of Acute Injuries" by Walter Maddock, M.D., and Robert Bartlett, M.D., of Ann Arbor; "The Management of Breech Presentation" by Howard H. Cummings, M.D., Ann Arbor. James D. Bruce, M.D., was the guest speaker at the dinner. His subject was "Postgraduate Education."

* * *

Your advertising and exhibitor friends should have your whole-hearted and enthusiastic support. Why not remember to send that next order to one of the firms which carries its message in the M.S. M.S. JOURNAL or helped your State Convention to be really worthwhile? Here are the names of ten of the 1938 Technical Exhibitors:

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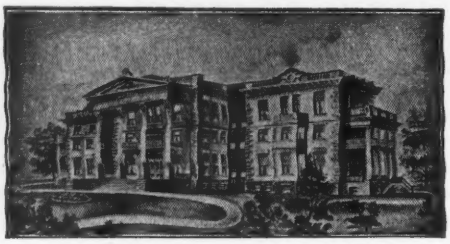
Duke Laboratories, Inc., Long Island City, New York.
General Electric X-Ray Corporation, Chicago, Illinois.
Gerber Products Company, Fremont, Michigan.
Gordon Shoe Company, Detroit, Michigan.
Hack Shoe Company, Detroit, Michigan.
Hanovia Chemical & Manufacturing Company, Newark, New Jersey.
J. F. Hartz Company, Detroit, Michigan.
H. J. Heinz Company, Pittsburgh, Pennsylvania.



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"Medical Memoirs of Fifty Years in Kalamazoo" by Dr. Rush McNair of Kalamazoo will soon be issued from the press. The volume contains Dr. McNair's personal reminiscences of the doctors affiliated with the Kalamazoo Academy of Medicine since 1887. The work will contain over 90 pages and will review the lives of one hundred physicians of earlier years. It is announced as a limited edition. Many of us are acquainted with Dr. McNair's fine literary style, having already read a few of the sketches, and we have every confidence that the book when it appears, will do justice to the author's subject.

* * *

The Ionia-Montcalm Medical Society was host on Friday, November 4, at a dinner in honor of Senator D. Hale Brake, Stanton, Representatives Arthur Royce, John Smith, and Walter G. Herrick. The meeting was attended by forty medical and dental practitioners, members and guests of the Society.

Vernor M. Moore, M.D., Grand Rapids, Councilor of the Fifth District, presided, and a very interesting and informative program was presented by the guests of honor, with Doctors Lemoyne Snyder and Harold A. Miller of Lansing, A. V. Wenger of Grand Rapids, and Roy H. Holmes of Muskegon.

I. S. Lilly, M.D., of Stanton, was in charge of arrangements.

* * *

The Radio Committee of the MSMS, in collaboration with the Joint Committee on Health Education, sponsored the following radio programs during the month of November:

Nov. 1—What to Do When Burned (Dialogue)—
Chas. N. Weller, M.D.
G. C. Penberthy, M.D.

Nov. 7—Asthma — S. J. Levin, M.D.

Nov. 14—*Conservation of Hearing (Questions and* Answers)— Wm. S. Gonne, M.D.

Nov. 21—Diseases of the Skin in Relation to General Health— Harther L. Keim, M.D.

Nov. 28—The Significance of Bleeding from the Lower Intestinal Tract—
L. J. Hirschman, M.D.

* * *

A "State Society Night" program was held by the Muskegon County Medical Society on November 18, in Muskegon. President Charles A. Teifer opened the meeting and turned the program over to Roy H. Holmes, M.D., Councilor of the 11th District. I. W. Greene, M.D., Owosso, Councilor of the 6th District, addressed the meeting on "Medical Care Plans." P. R. Urmston, Chairman of The Council, spoke on "Group Hospitalization and Need for an Enabling Act." "Form I-F of the A.M.A. Survey" was discussed by L. E. Holly, M.D., and Geo. LeFevre, M.D., both of Muskegon. President-Elect Burton R. Corbus discussed "Things in the Future for Medicine and Education of the Public." "The Speakers Bureau and Services of the Michigan State Medical Society to its members and the Public" was the subject of Secretary L. Fernald Foster. Wm. J. Burns discussed "Medical Care to the Indigent."

Chairman Holmes also called upon E. F. Sladek, M.D., Councilor from the 9th District; A. S. Brunk, M.D., Councilor of the 16th District, and Vernor M. Moore, M.D., Councilor of the 5th District.

* * *

On Sunday, October 30, the *Detroit Free Press* carried a medical section. The first medical section in a Detroit daily paper was that published by the *Detroit Free Press* in 1937. The front page of the 1938 medical section contains clippings of medical news items over which is a globe of the world and the heading, "Medicine Moves Forward

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with the World." There are a number of signed articles and a larger number anonymous, except that they are written by the medical committee of contributors. The arrangement was accomplished by Mr. Lawrence Salter, formerly of the *Free Press* staff, now with the publicity department of the American Medical Association. Dr. Morris Fishbein, editor of the *American Medical Association Journal*, contributed an article on the services to the nation which are performed by the American Medical Association. The combined result is a newspaper section that was doubtless widely read by the *Free Press* readers. The venture was a credit to the Wayne County Medical Society, as well as the *Detroit Free Press*, which for a century or more has led as sponsor of the worthwhile in service to its large community.

* * *

American Medical Association—Scientific Exhibit

Application blanks are now available for space in the Scientific Exhibit at the St. Louis Session of the American Medical Association, May 15-19, 1939. Attention is called to the fact that the meeting is a month earlier than usual, and applications close January 5, 1939. Blanks will be sent on request to the Director, Scientific Exhibit, American Medical Association, 535 North Dearborn St., Chicago, Ill.

* * *

Mid-Western Radiologists Meet

The Mid-Western Radiologists will convene for a clinical conference in Detroit, on February 10 and 11. The meeting place will be the Hotel Book-Cadillac. The program usually presented at these meetings consists chiefly of subjects of clinical importance with roentgenologic features. All of the details of the program have not been arranged at this time, but a preliminary program will be announced in the near future.

* * *

American Board of Obstetrics and Gynecology

The next written examination and review of case histories for Group B candidates will be held in various cities of the United States and Canada on Saturday, February 4, 1939, at 2:00 P. M. Application for admission to this examination must be filed on an official application form in the office of the Secretary at least sixty days prior to this date, (or before December 4, 1938).

The general oral, clinical and pathological examinations for all candidates (Groups A and B) will be conducted by the entire Board, meeting in St. Louis, Missouri, on May 15 and 16, 1939, immediately prior to the annual meeting of the American Medical Association. Application for admission to Group A examinations must be on file in the Secretary's Office by March 15, 1939.

For further information and application blanks, address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh (6), Penn.

* * *

Dr. Henry Luce

The *Muskegon County Medical Bulletin* recently published the following, descriptive of a splendid pen portrait of the president of the Michigan State Medical Society by the Muskegon County Medical Society's versatile artist, Dr. C. L. A. Oden. Dr. Oden is an exceptional artist and his interesting pen sketches of celebrities and near celebrities (we are not saying who the latter are) of Michigan Medicine have been an interesting feature of the *Bulletin* for the past year or so. We accuse our friend,

YES-GOOD WHOLESOME MARGARINE IS ALMOST 100% DIGESTIBLE
TAKE NUCOA FOR INSTANCE- YOU SEE, IT IS 80% FOOD FAT AND EXPERIMENTS ON PEOPLE SHOW NUCOA TO BE OVER 96% DIGESTIBLE ALSO, BECAUSE OF ITS HIGH FAT CONTENT, NUCOA SUPPLIES MORE LASTING FOOD-ENERGY THAN CARBOHYDRATE
1. Holmes and Deuel: Am. Jrl. Physiol., Vol. 54, P. 479. (Confirmed in experiments with New Nucoa by university workers.)
H'MM... THAT IS INTERESTING
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2. Munsell, Jrl. A. M. A., Vol. 111, P. 250, 1938.
WELL THEN... DO YOU RECOMMEND NUCOA TO YOUR PATIENTS?
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Dr. Roy H. Holmes, of the write-ups. As an editor, Dr. Holmes is fearless, saucy and independent—all interesting characteristics of editorship.

Here goes.

"The cover this month (of the November *Muskegon County Medical Bulletin*) carries Dr. Oden's conception of our new State President, Henry Luce. Dr. Luce is making every possible effort to attend our State meeting, but as yet we can't be assured of his personal presence. If we were sure that Dr. Luce was not coming, we would dig out our dictionary and look up the words which appropriately describe the admiration and respect by his colleagues. His psychiatrical training has come into good stead in his handling some of us crack-pots who might upset the proverbial apple-cart. How he can make each one of us feel that we are vitally important to the Society and his most trusted advisor, and then go ahead and do it his own way, is beyond the ken of ordinary mortal. Suffice it to say, as a testimonial to the delegates' belief in his capabilities, that when it was announced that Henry Luce would be a candidate for President-Elect, no one would even consider placing their name in nomination against him. We hope that he is able to attend our meeting, and that you will have another opportunity to meet one of the grandest men in Michigan medicine."

CORRESPONDENCE

ATTORNEY GENERAL'S OPINION ON CHIROPRACTORS' STATUS

August 23, 1938

State Board of Registration in Medicine,
100 West Allegan Street,
Lansing, Michigan.

GENTLEMEN:

We are in receipt of your recent letter requesting the opinion of this office in regard to the status of chiropractors under the laws of Michigan, with particular reference to an *attached brief of argument and legal authority.*

The brief purports to define "chiropractic" under the Michigan law, and analyzes the legal authority in support of the propositions that a chiropractor cannot legally furnish medical and surgical services contemplated by the Workmen's Compensation Act, and that a chiropractor cannot lawfully use the title "doctor" or its abbreviation.

It is our opinion, without adopting the language in the argument of this brief, that the conclusions therein stated are correct upon the above propositions.

"Chiropractic" is defined in Section 6 of Act No. 145, Public Acts of 1933, to be "the locating of misaligned or displaced vertebræ of the human spine, the procedure preparatory to and the adjustment by hand of such misaligned or displaced vertebræ and surrounding bones or tissues." The word "chiropractic" is limited in scope, as above specified, and a chiropractor is not entitled to designate himself as a "physician" by reason of his license to practice "chiropractic." New York Life Insurance Co. v. Modzelewski, 267 Mich. 293.

A chiropractor who engages in treating ailments or diseases by any method not chiropractic, or ailments and diseases which cannot be treated or corrected by chiropractic methods, is engaged in the unauthorized practice of medicine contrary to Act No. 237, Public Acts of 1899, as amended, particularly Sections 7 and 9 thereof, being Sections 6743 and 6745, Compiled Laws of 1929. See State v. Boston (Iowa), 278 N. W. 291; State v. Stoddard (Iowa), 245 N. W. 273; State v. Lyndon (Wash.), 16 Pac. (2nd) 848; People v. Machado (Cal.), 279 Pac. 228.

It is also our opinion that chiropractors are not authorized to give medical treatment to persons injured by industrial accidents, or incapacitated by occupational diseases, under the Michigan Work-

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men's Compensation Law, as amended, being Act No. 10, Public Acts of 1912 Extra Session, as last amended by Act No. 61, Public Acts of 1937, and Act No. 3, Public Acts of 1937 Extra Session.

The medical services contemplated by Sections 4 and 19 of the Michigan law, being Sections 8420 and 8435, Compiled Laws of 1929, are not services which can be performed by a chiropractor; and an employer furnishing the services of a chiropractor to his injured or diseased employees is not discharging his duty to his employees under the said act. See Golden's Case (Mass.), 132 N. E. 726; Carsten v. State Industrial Commission (Wis.), 240 N. W. 834; Joyner v. State (Miss.), 179 So. 573.

As this office has previously ruled, a chiropractor does not have legal authority to use the prefix or abbreviation "doctor," or "Dr." before his name; and his use of the title or abbreviation in a medical sense is a violation of the Medical Practice Act. See State Board of Medical Examiners v. DeYoung (N. J.), 140 Atl. 676; State v. Michels (Wis.), 277 N. W. 157.

We trust that the foregoing satisfactorily answers your questions.

Very truly yours,
RAYMOND W. STARR,
Attorney General.
By JOHN H. BRENNAN,
Deputy Attorney General.

Among Our Contributors

OUR CONTRIBUTORS

Dr. Joseph Louis Baer is Professor of Obstetrics and Gynecology, Rush Medical College; Senior Attending Gynecologist and Attending Obstetrician, of the Michael Reese Hospital. He is a Fellow of the American Board of Obstetrics and Gynecology; a member of the Institute of Medicine, Chicago, the American Gynecological Society, the Board of Directors of the Infant Welfare Society, Chicago.

* * *

Dr. J. Arnold Bargen of Rochester, Minnesota, is Associate Professor of Medicine at the Mayo Foundation, consultant in Medicine at the Mayo Clinic, and is in charge of Intestinal Service, St. Mary's Hospital. Dr. Bargen is a member of the American Gastro-Enterological Association, Central Society for Clinical Research, Pan-American Medical Association, and the International Gastro-Enterological Association.

* * *

Dr. Oscar V. Batson received the degree of M.D. from St. Louis University in 1920. He was instructor in Anatomy, University of Wisconsin, 1920-21; Assistant Professor, Associate Professor and Professor of Anatomy, University of Cincinnati, 1921-28; Professor of Anatomy, Graduate School of Medicine, University of Pennsylvania, since 1928, and member of the staff of the Graduate Hospital, University Hospital and Philadelphia General Hospital. Dr. Batson is a member of the American Association of Anatomists and the American Academy of Ophthalmology and Otolaryngology.

* * *

Dr. John Freedman is a graduate of the University of Michigan Medical School of the class of 1926. In 1930, he was Assistant in Roentgenology at Mt. Sinai Hospital, Milwaukee, Wisconsin; from 1931 to 1932, he was Assistant and Instructor in Roentgenology Research and Ed-

ucational Hospital and College of Medicine of the University of Illinois. He is a diplomate of the American Board of Radiology, and is now in private practice, specializing in roentgenology.

* * *

Dr. Raphael Isaacs was graduated from the University of Cincinnati College of Medicine in 1918. He was formerly Instructor in Medicine at Harvard Medical School and is now Associate Professor of Medicine and Assistant Director of the Simpson Memorial Institute for Medical Research, University of Michigan. Dr. Isaacs is carrying on research in hematology.

* * *

Dr. E. O. Jodar was graduated from the University of Illinois in 1927 with B.S. and M.D. degrees. He was at Ford Hospital for two years and at the Children's Clinic Group for two years. Since 1931, he has limited his practice to Pediatrics with special reference to blood transfusions.

* * *

Dr. Joseph Johns is a graduate of the American Medical Missionary College of Chicago in 1910. (This college merged with the University of Illinois-Chicago.) He received internship at Providence Hospital of Detroit in 1920; was Assistant of Clinical Surgery in Royal Infirmary of Glasgow in 1923; did post-graduate work at the Laboratory of Surgical Technic of Chicago in 1927. Mayo Clinic in 1929. He is Associate Surgeon in the Clinton Memorial Hospital, St. Johns, Michigan.

* * *

Dr. Frank A. Kelly graduated from the Detroit Homeopathic College in 1903 and the University of Detroit in 1919. His specialty is general surgery. Dr. Kelly is Surgeon in Chief at Grace Hospital, Attending Surgeon, Evangelical Deaconess Hospital, and Consulting Surgeon of the Detroit Receiving Hospital, also the Highland Park General Hospital. Dr. Kelly is a special lecturer in surgery at the Wayne University College of Medicine.

* * *

Dr. Irvin W. Sander is Director of the Student Health Service at Wayne University, Detroit, and Associate Professor of Preventive Medicine and Public Health. Graduate of Detroit College of Medicine and Surgery, 1929. Professor of Embryology, same, 1925-1936. Degree Dr.P.H., Wayne University College of Medicine, 1933.

* * *

Dr. Fred J. Taussig was graduated A.B from Harvard University in 1893, and M.D. from Washington University in 1898. In 1929, he was president of the Central Association of Gynecology and Obstetrics, and in 1937, he was president of the American Gynecological Society. Dr. Taussig was gynecologist of the Barnard Free Skin and Cancer Hospital from 1906 to 1938. He is Professor of Clinical Obstetrics at the Washington University School of Medicine.

* * *

Dr. Nina C. Wilkerson is a graduate of the University of Kansas School of Medicine, 1929. She is engaged in general practice at Sturgis, Michigan. At present, she is serving her third term as Health Officer of that city.

* * *

Dr. Edward Wishropp was graduated from the University of Michigan Medical School in 1922. He received his B.S. from the same school in 1920. Dr. Wishropp was Resident Physician and Instructor in Pediatrics at Cornell Medical School, and the New York Nursery and Child's Hospitals, 1924-25. He was Resident and Instructor in Pediatrics at the University of California Medical School in 1926. He has specialized in Pediatrics in Detroit since 1927, and is an instructor in Pediatrics at Wayne University Medical School.

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Acknowledgment of all books received will be made in this column and this will be deemed by us a full compensation to those sending them. A selection will be made for review, as expedient.

PATHOLOGICAL TECHNIQUE, A PRACTICAL MANUAL FOR WORKERS IN PATHOLOGICAL HISTOLOGY INCLUDING DIRECTIONS FOR THE PERFORMANCE OF AUTOPSIES AND FOR MICROPHOTOGRAPHY. By Frank Burr Mallory, A.M., M.D., S.D. Consulting Pathologist to the Boston City Hospital, Boston, Mass. Illustrated. Philadelphia and London: W. B. Saunders Company, 1938.

The author does not offer this work as an encyclopedia covering the subject in its complete details. He has, instead, selected those methods and formulas that have been found of most value in the past and those which seem to offer the most value for the present. The work is intended to serve the needs of the hospital pathologist and of students and technicians as well as of practitioners who are interested in pathologic technics. For these it is a valuable addition to one's library.

FEARFULLY AND WONDERFULLY MADE, THE HUMAN ORGANISM IN THE LIGHT OF MODERN SCIENCE. By Renée von Eulenburg-Wiener. New York: The Macmillan Company, 1938.

This is a work on human physiology which also includes physiological chemistry. It presents the subject with great clarity and as completely as possible in 470 pages. It is an admirable book for the physician who wishes to review the whole field of physiology, and it will be found valuable likewise to the educated general reader whose interests are scientific, inasmuch as it would require a knowledge of chemistry to read it intelligently. It is printed on a high grade of paper with good legible type. The illustrations, though not profuse, are line drawings which aid in the elucidation of the text. To repeat, as a means of reviewing the subject of physiology as a pastime, we know of no better book.

BIG FLEAS HAVE LITTLE FLEAS, or Who's Who Among the Protozoa. By Robert Hegner, Professor of Protozoology in the School of Hygiene and Public Health of the Johns Hopkins University, Based on Messenger Lectures, Cornell University, 1937. Baltimore: The Williams & Wilkins Company, 1938. Price: $3.00.

Anyone familiar with Dean Swift's little verse,

> Big fleas have little fleas
> Upon their backs to bite 'em,
> And little fleas have lesser fleas
> And so ad infinitum.

might guess what may be the subject of this book. For those who might spend too much time guessing, we haste to say that it is a work of 285 pages on protozoology, written by a master. It is as simple as the subject will permit, and with an occasional consultation of the glossary, the average person with a high school education should have no trouble in obtaining an intelligent understanding of the subject. It is more than a textbook. The very graphic, not to say facetious illustrations, are unique. The protozoa are made to talk and carry on dialogues. Not only has the author made use of pen illustrations in black and white—he has shown great facility in parodying some of the old familiar songs, for instance:

> Forward little millions,
> Marching gaily on,
> Little naked 'meba,
> Leads the mighty throng.
>
> Comes the green Euglena,
> And Paramecium too,
> Followed by the Spore Bearers,
> Cavorting two by two.
>
> Onward little millions,
> Marching for to see
> If they cannot dominate
> The world, and you and me.

or

> "Adventure lies over the ocean
> For pioneers craving to roam;
> But nature is swarming with microbes
> In Everyman's own home sweet home.
>
> Get wise then to rat and to cockroach;
> Be gentle with guineas and geeses;
> Inside of their cute little tummies
> May flourish a cosmos of species."

As an example of his lucid style, we have his description of a parasite:

"The term Parasite when applied to human beings has much the same meaning as that recognized by biologists. Originally, it was used for persons who frequented the tables of the rich and earned their welcome by flattery. Parasitism in a restricted sense is now used only for the type of association between two different species of organisms in which one species, the host, is actually injured by the other species, the parasite. A parasite of this type is said to be pathogenic to its host. In a broad sense, Parasitism implies any condition in which one species lives in or on another species."

If one wishes to combine profitable with pleasurable reading, one cannot do better than to peruse "Big Fleas Have Little Fleas."

The Council on Physical Therapy of the American Medical Association has published a brochure of seventy-eight pages listing the apparatus accepted and approved by the council. This brochure not only lists the various apparatus but gives concise descriptions in many instances. The names of the firms manufacturing the various apparatus are also given. To those doctors including physical therapy in their practice, the little brochure should prove interesting.

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Branch	N. S. ALDRICH Coldwater	F. S. LEEDER Coldwater	3rd Thursday 6:30 p. m.	3rd Thursday December
Calhoun	J. E. ROSENFELD Battle Creek	WILFRID HAUGHEY Battle Creek	1st Tuesday (except July and Aug.)	1st Tuesday December
Cass	K. C. PIERCE Dowagiac	GEO. LOUPEE Dowagiac	2nd Wednesday or Thursday	December 15
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Clinton	F. E. LUTON St. Johns	T. Y. HO St. Johns	Last Tuesday (Oct. to June, incl.)	Last Tuesday October
Delta-Schoolcraft	W. A. LEMIRE Escanaba	G. W. BENSON Escanaba	1st Thursday 8:30 p. m.	December 2
Dickinson-Iron	L. E. IRVINE Iron River	W. H. HURON Iron Mountain	1st Thursday 6:30 p. m.	1st Thursday December
Eaton	BERT VAN ARK Eaton Rapids	THOMAS WILENSKY Eaton Rapids	3rd Thursday	No set date
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Grand Traverse-Leelanau-Benzie	MARK OSTERLIN Traverse City	C. E. LEMEN Traverse City	1st Tuesday 8:00 p. m.	1st Tuesday December
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Further research has also defined more closely not only the vitamin D requirements of normal infants and children, but also of premature infants and those peculiarly susceptible to rickets. Apart from conditions of pregnancy and lactation, the possible requirement of the human adult for vitamin D is still not known (3). The International system of expressing vitamin D potency has been universally adopted; bioassay methods have been standardized (4); and last but not least, a high degree of standardization has been attained, not only in regard to the antirachitic potency of Vitamin D preparations, but also as to the extent to which the vitamin D contents of certain foods should be increased by the various means available (3).

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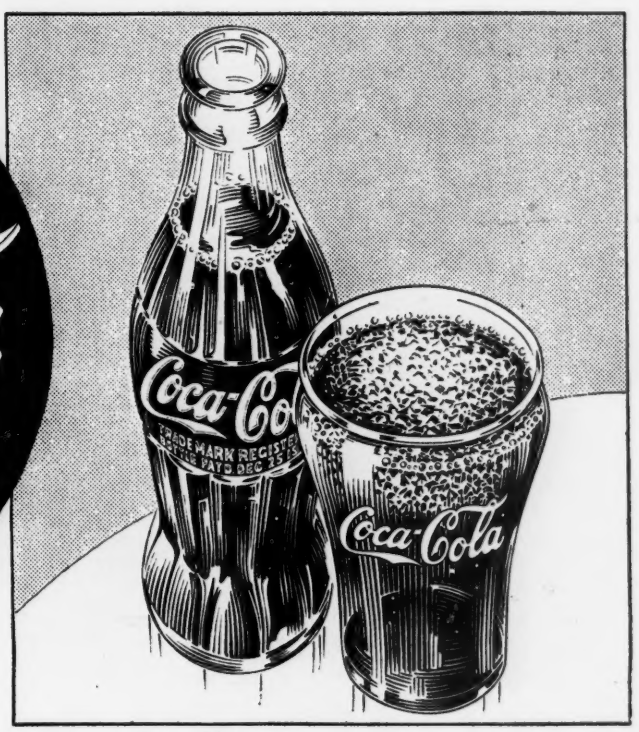

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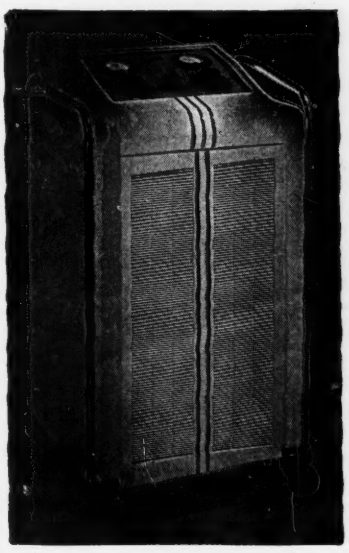

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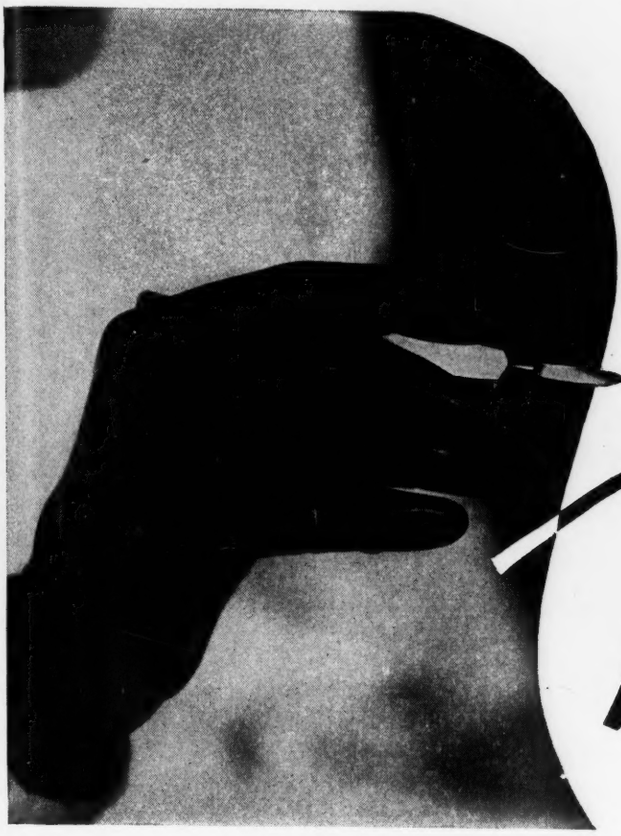

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Proc. Soc. Exp. Biol. and Med., 1934, 32, 241-245 ☐ Laryngoscope, 1935, XLV, 149-154 ☐

N. Y. State Jour. Med., 1935, 35, No. 11, 590 ☐ Laryngoscope, 1937, XLVII, 58-60 ☐

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*Toomey, John, A. and Baker, Conrad, S.—Journal of Pediatrics, April, 1938.

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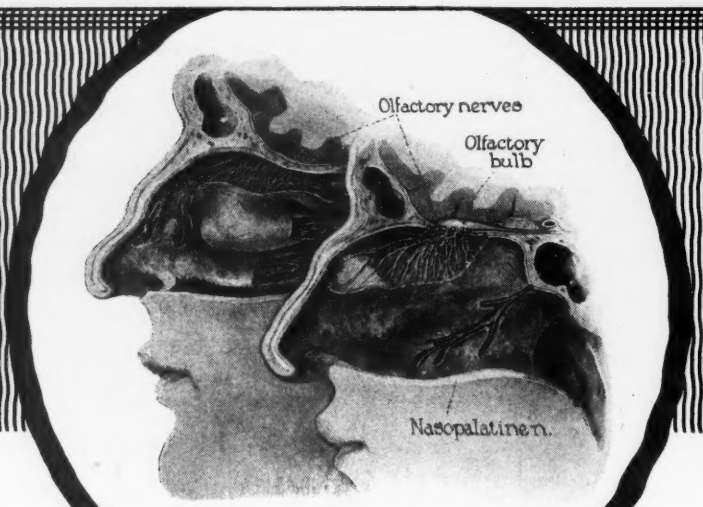

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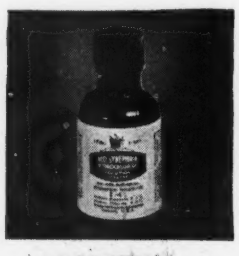

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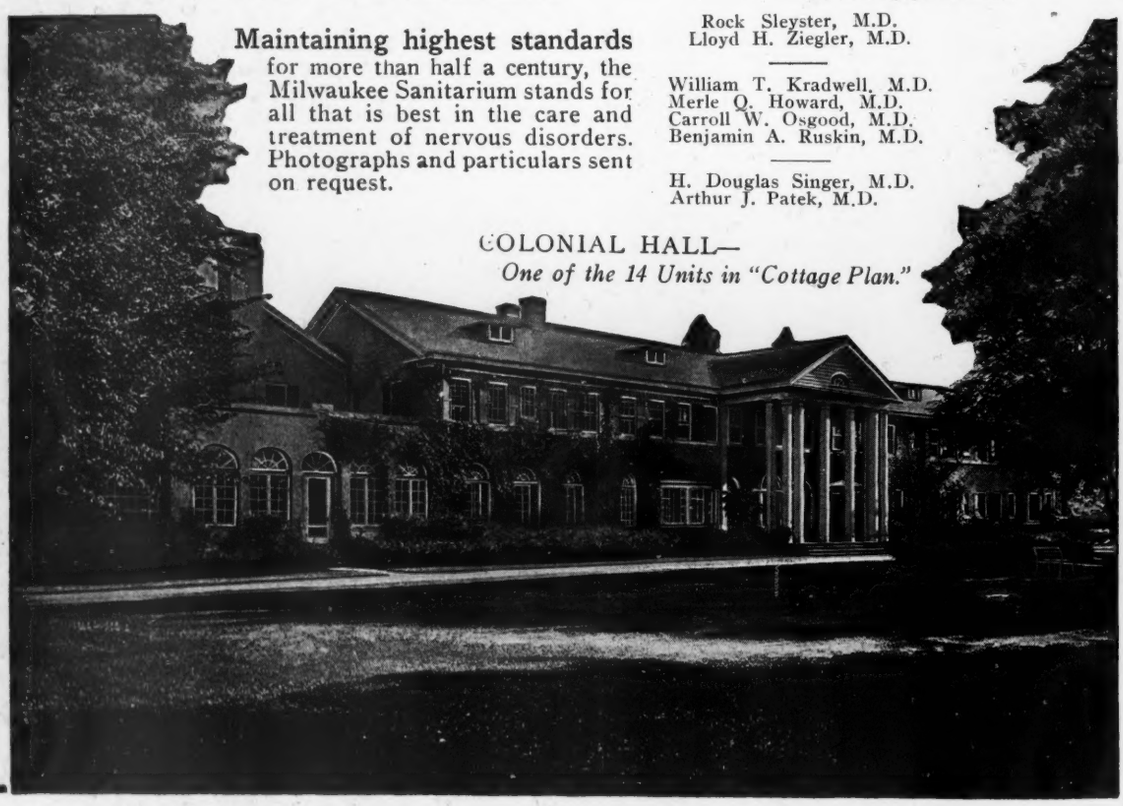
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